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Volume 5 Number 12

Muzzle Blast

LETTERS • COMMENTS • NOTES • CORRECTIONS • ADDITIONS

MORE INTO ON SOVIET MBT'S...

Dear Sirs,

Your articles in Vol. 5, Nos. 9 and 10 of **AFV-G2** on Soviet MBT's were very interesting and informative. However, there was understandably little said on the new Soviet T-64 (or T-72) tank. I've, therefore, pieced together what references I possess; I hope it will be of some use.

The T-64 (as it is most often called) was first issued to Soviet forces around 1974. It is approximately the same height and weight as the T-62 with a similar turret. But it has a glacis more resembling the Chieftain, an M-60-like suspension consisting of 6 small road wheels and 3 return rollers on each side, and tracks with rubber shoes. The external fuel tanks also seem to be deleted.

The T-64 was preceeded by the M-1970 (**AFV-G2**, Vol. 4, No. 5), which is similar except the M-1970 carries the 115mm gun of the T-62. The T-64, though, carries a new, very long-barreled 125mm gun, with rifling at the beginning and smooth bore the remainder. This would permit a slight rotation with the high velocity of smooth bore, increasing accuracy well beyond the often-quoted 1,500m smooth-bore 'limit'.

The turret is set well back on the hull. The crew is reduced to three: the driver sitting on the center line, the commander on the right (the reverse of the T-62), and the gunner on the left. There is no loader due to the fully automatic loading system of similar design to that on the BMP-1 APC.

Like the Chieftain MBT, the ammunition is handled separately — the shells stored around the turret ring, and propellant charges stored on the turret floor. Unfortunately for the Soviets, a price must be paid for installing such a large gun (over 6 meters in length) in such a compact vehicle. Only 28 rounds can be stored, as compared to 50 or 60 in most western tanks.

The engine is estimated to be approximately 1,000hp., which is less than the heavier XM-1 and Leopard-2-AV, but superior to any western tank now is service, including the up-powered M60A3. The road speed is said to be an excellent 80km/hr.

To sum-up, remember that the T-64 is a close contemporary of the abortive MBT-70. Since it didn't suffer the same fate as it's western counterpart, the Soviet Union has begun production of a considerably more formidable MBT, before the West was even able to agree on an acceptable prototype.

Finally, a request. Seeing that the Chrysler XM-1 has been chosen substantially unaltered from the prototype so far, could you possibly supply some diagrams, drawings or photos? Most magazines I've seen have the same heavily airbrushed photo of the prototype. Thank you for your attention.

Yours truly,

Michael Duplessis
Boston, MA 02115

References: **Armies & Weapons Magazine, Stern Magazine, Der Spiegel Magazine.**

...AND SOME GENERAL COMMENTS...

Dear Editor,

First, Mr. Perkins is right in his assumption that we are hurting for a recon vehicle. The mission of the cavalry units in Germany is to delay any Warsaw Pact assault long enough for the main units to react. The M551 is a good recon vehicle except that it can't carry infantry inside of it.

Second, there is a recon version of the M113A1. It was developed for use in Vietnam. Called the armored cavalry vehicle, A-CAV for short, the .50 caliber on the commander's coupola has a shield and there is a wrap-around armor section for the coupola. An M60 machine gun with a shield is mounted on each front corner of the cargo hatch.

Third, there isn't a single reason why we shouldn't adopt the Rheinmetall 120mm tank gun. It out-penetrated our 105 and the UK 110mm and the APFSDS round shatters after penetration, which gives it a kill chance — 60% higher than our 105 or the UK 110mm.

Fourth, I would like to congratulate your magazine for the articles on the T55/62 tanks. You have put the U.S. Army to shame when it comes to distributing current information, which is badly needed by our units. One question; how long does it take to traverse the turret on the T62 to 360° at maximum traverse speed? I look forward to each issue of your magazine.

Yours truly,

SGT Christopher F. Schneider
Fort Hunter Liggett
Jolon, CA 93928

...AND A FEW QUESTIONS...

Dear Editor,

I have a couple of notes that you might like to mention in your next issue of **AFV-G2**. I was talking to a gentlemen who was a member of III/Flak Regt. 110 of the German Airforce anti-aircraft forces in WWII. He was in Prague in the winter of 1944-45. His battery re-equipped itself with British Ford 3-ton (?), 4x4's with right-hand drive from a large stock of brand new trucks that were parked on a barrack's parade ground. He believes that there were approximately 3,000 of these new trucks. He stated that the markings on the trucks were Hungarian. He had served as support to Hungarian troops on the Eastern Front but he would not know pre-WWII. Czechoslovakian markings. He mounted his four-barrelled 20mm guns on the back of the British Fords & used them in the Battle of the Bulge. Would anyone know how these trucks arrived in Prague?

On page 132 of the Ballantine Book's publication 'Waffen SS, Asphalt Soldiers' by John Keegan, there is a photograph entitled, 'An SS Armoured Column in Budapest, 1945'. The soldier riding the tank is wearing an SS camouflage smock and the tank has an SS-style camouflage paint job; but, what is unusual is the tank itself. I believe the tank to be an Italian Carro Armato L6/40. Would any reader know what unit was using these Italian tanks? Also, would anyone know how much Italian equipment was used by the Germans on the Eastern Front?

Yours truly,

Richard T. Barnes
Inuvik NWT, Canada

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May-June 1977

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Staff:

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Front Cover: The best known of all German 'tank aces' was SS-Obersturmführer Michael Wittmann, who scored almost all of his 'kills' in a German Tiger I. heavy tank. This art rendering was provided by Gary Simpson and was taken from the newly-released Simpson/Shiverick Publications full-color poster of this famous 'tank ace' and his crew.

Rear Cover: A poor-quality, grainy photo of the new Soviet T72 Medium Tank, photographed from an overhead angle, clearing showing hull and turret details of this 'mystery' tank. An article on this new vehicle appears on page 6. Photo Credit: U.S. Army.

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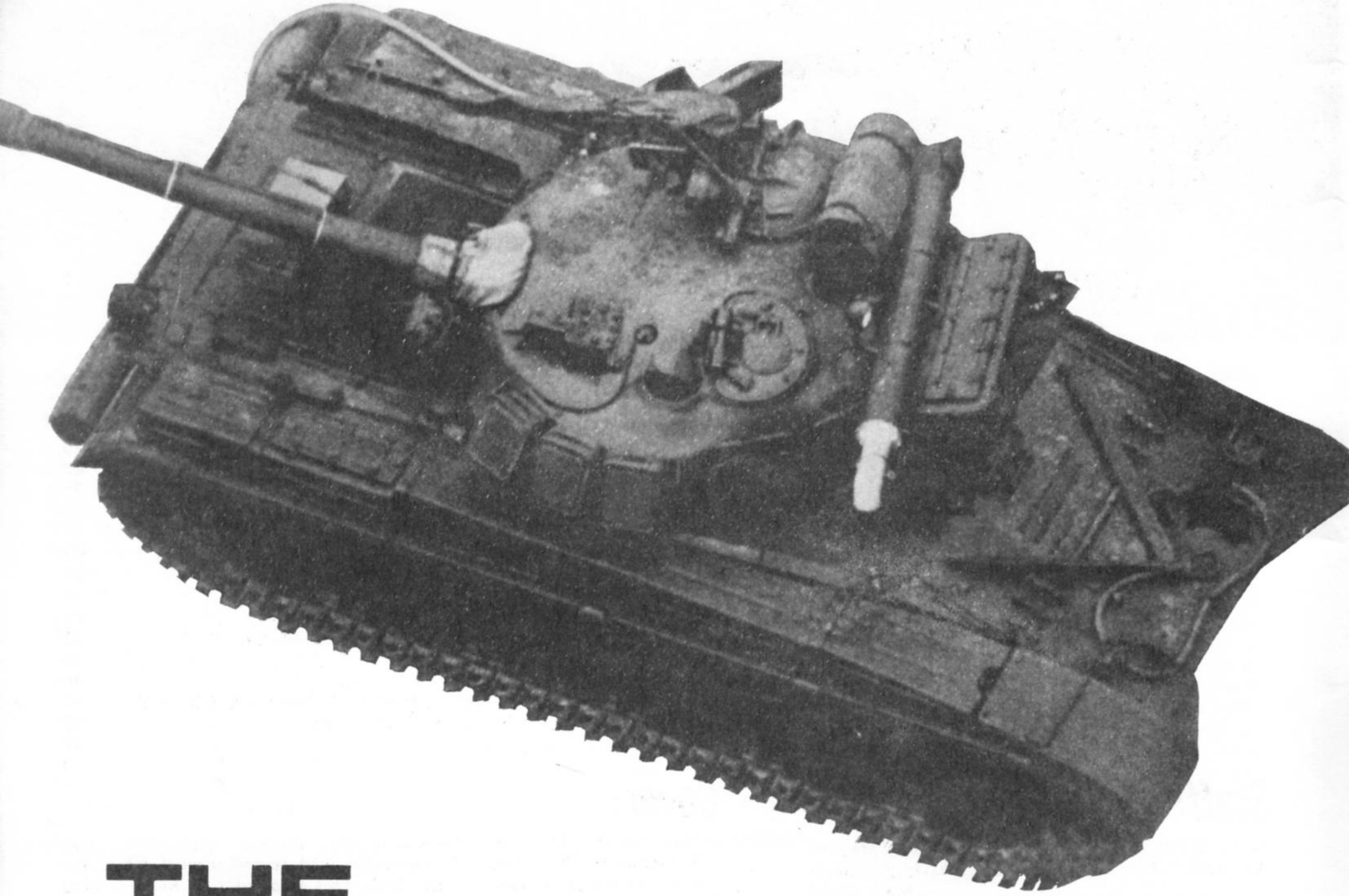


THE SOVIET T-72 TANK

Probably the greatest 'mystery' vehicle of the last few years has been the recently-produced Russian medium tank variously designated as the T64, T70 or T72. Until recently, little has been available on this tank other than one or two extremely poor photographs. This situation has now been (partially) remedied, with the release of a number of photographs by the U.S. Army. These pictures, shown in this article, are not the clearest photographs, but they do show some details and reveal some rather interesting points about the T72, especially when compared to details of the earlier T62.

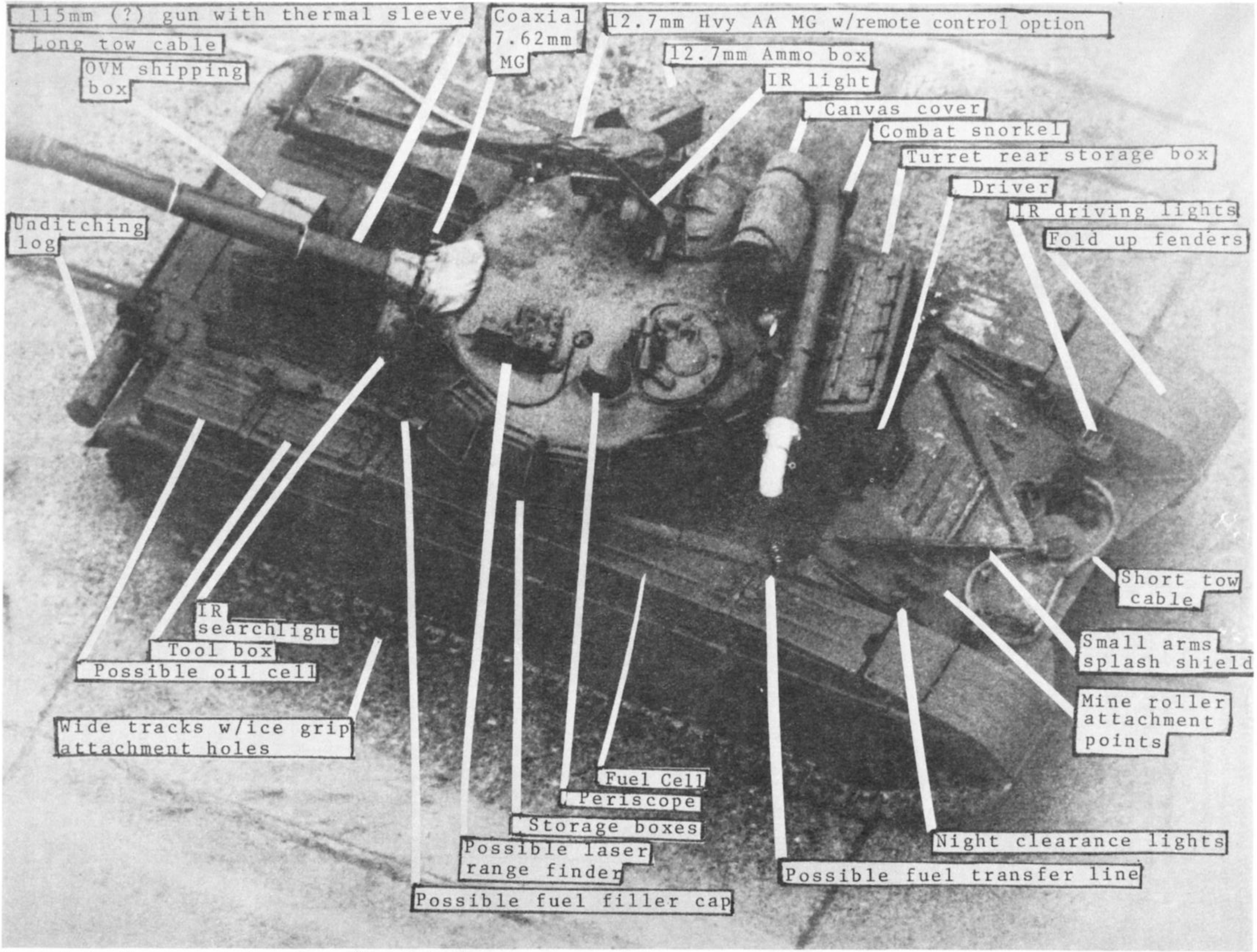
In this article looking at the T72, we should divide the text into two separate parts; first, the exact information revealed by the U.S. Army in its press release, and secondly, some interpretations of the details shown in the pictures. In this latter regard, the interpretations are those of the editorial staff of *AFV-G2* magazine, and do not necessarily represent official statements on the part of U.S. Army personnel... First, here's what the U.S. Army in its press release says about the Soviet T72...

'The Soviet T72 tank has recently been deployed with Soviet forces in East Germany. The T72 is the latest model tank in the Soviet inventory.'

'The T72 features a new hull, turret and suspension system while retaining the characteristic low silhouette of previous Soviet tanks. It is slightly smaller than the T62 and weighs approximately 38-tons. The tank is believed to be equipped with armament similar to the T62's 115mm smoothbore gun, an improved fire control system with a possible laser rangefinder, and an automatic loader which permits a reduction of the tank crew from four to three men.'

'Other changes include a redesigned engine compartment indicating an improved engine and the driver's position has been shifted from the left side of the hull to the center. Unlike previous Soviet tanks, external stowage is extensive with stowage boxes attached to the outside of the turret. The T72 has been in production for about two years and the Soviets have produced over 2,000 of the new tank.'

Photo, Above: An overhead view of the T72 medium tank. In this view, the turret is traversed to the rear and the front of the tank is to the lower right. Note the deep-water fording equipment on the rear of the turret. Credit: U.S. Army



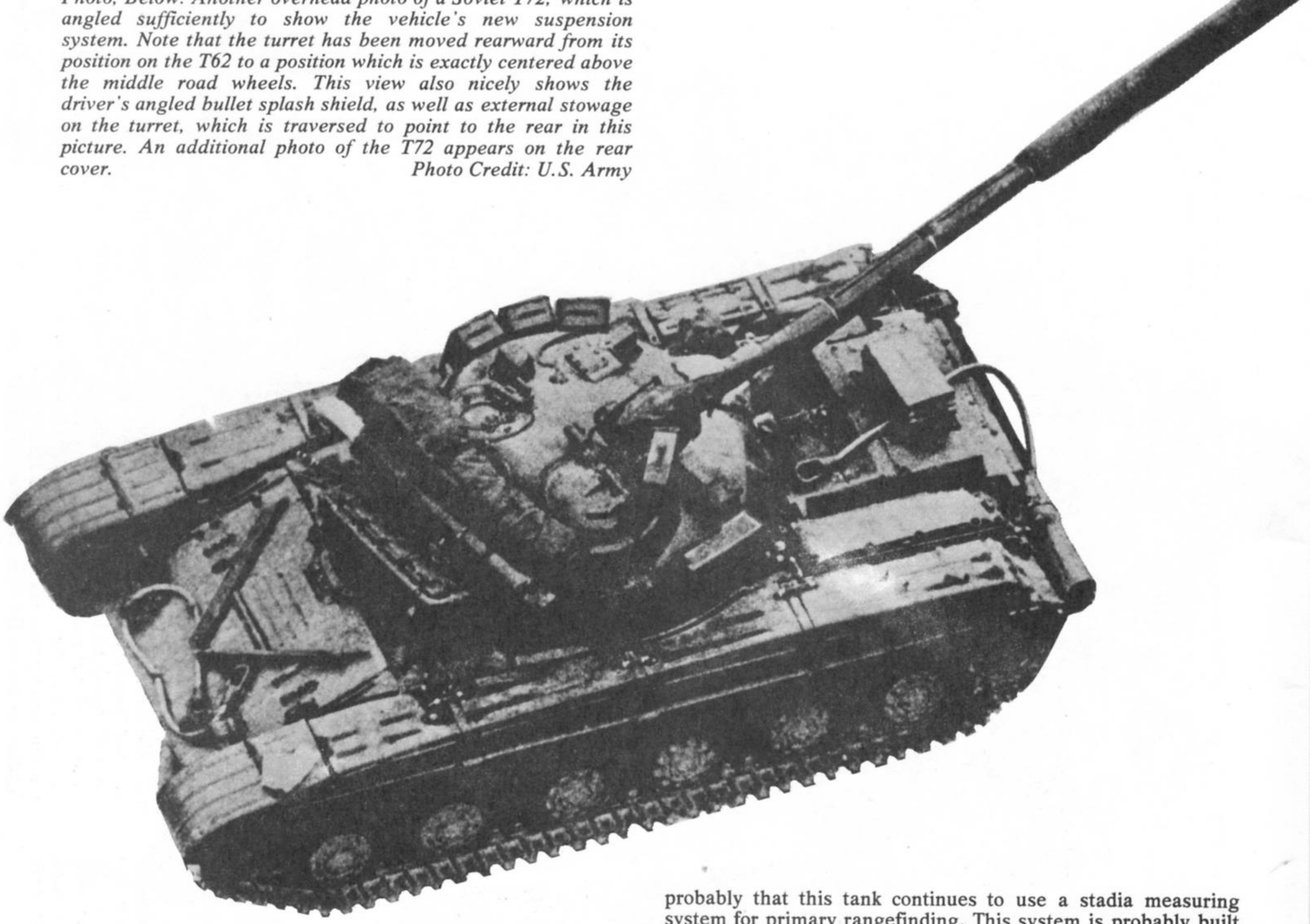
Probably the greatest single area of change in the T72 over previous Soviet medium tanks is the vehicular suspension system. The T72 utilizes a system with smaller diameter road wheels, upper track return rollers (which are vaguely similar to the old JS- series of heavy tanks), and a tensioned track system. This is a radical departure from the T54 family of medium tanks, and it was probably necessary for better weight distribution and smoother running, as well as to solve problems that are associated with poor trcak life and system wear.

Although the T72 engine compartment in the rear shows signs of redesign, the size and shape of this area indicates that the Soviets still retain the one package engine, transmission and final drive arrangement which was developed for the T54 family. Changes in this package are probably to provide increased horsepower (output) for better tractive effort and greater speed, although increased reliability of the system would also be a desired feature. Although the T72 is considered smaller than its predecessors, it appears that the internal fuel system has remained constant in size (if not actually increased). Fender fuel cells appears to have been either replaced or faired-in, and the move of the driver's position to the centerline of the vehicle has probably resulted in smaller fuel cells located on both sides of the driver.

The sharply angled glacis plate on the front of the hull has been altered in order to provide additional protection for the driver; a 'V' shaped piece of angle iron has been fastened to the glacis plate to serve as a splash shield to deflect small arms fire away from the driver's optics and exposed head and shoulders.

The turret in many ways shows a complete redesign, although it is obvious that the external shape was derived from the T62. First, the turret has been moved rearward on the hull, resulting in better weight distribution. Additionally, the turret is smaller, a factor which has been brought about by the reduction of the turret crew from three to two. Note that the turret retains the twin turret hatch system from earlier tanks, and that the turret continues to mount a 12.7mm anti-aircraft heavy machine gun. With the deletion of the loader from the crew, it would appear that one of the two-man turret

Photo, Below: Another overhead photo of a Soviet T72, which is angled sufficiently to show the vehicle's new suspension system. Note that the turret has been moved rearward from its position on the T62 to a position which is exactly centered above the middle road wheels. This view also nicely shows the driver's angled bullet splash shield, as well as external stowage on the turret, which is traversed to point to the rear in this picture. An additional photo of the T72 appears on the rear cover. *Photo Credit: U.S. Army*



crew is now located on either side of the main gun. Probably the gunner sits on the left and the tank commander has been moved to the right side of the turret, beneath the 12.7mm weapon. Quite possibly the target designator system (common on the T54 through T62) has been deleted, and it would appear that the tank commander operates the anti-aircraft weapon, possibly through a remote control device. In addition, the commander must also have the responsibility for loading and maintaining the coaxial 7.62mm machine gun which is mounted on the right side of the main gun.

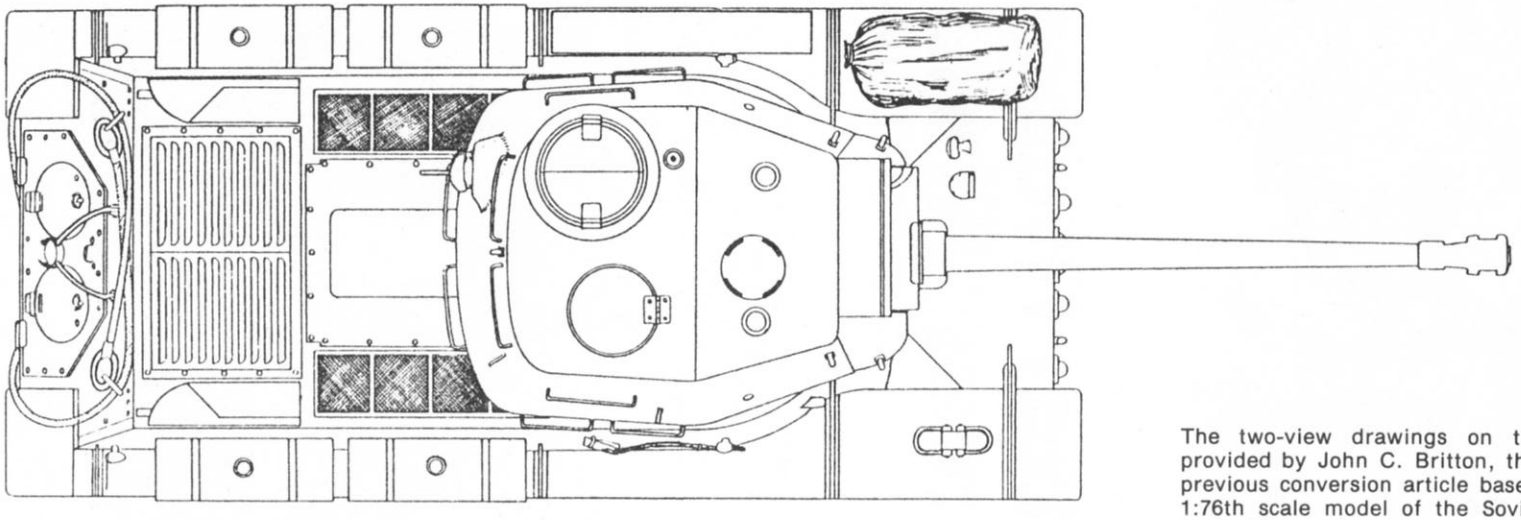
While the caliber of the main tank gun is still unknown, it seems quite probably that the 115mm smoothbore weapon of the T62 has been retained, if only for ammunition standardization. Actually, the 115mm round is quite powerful and is more than adequate in terms of kill potential. Additionally, this size of round comes close to being the maximum which can be handled. Although an automatic loading device could quite possibly handle a larger (or even a separated) round of ammunition, it still takes crew members to load the automatic system and the possibly larger round would limit the number of rounds of ammunition that the tank could possibly carry. Readers should note that the Soviets have progressed to thermal insulated barrel wrappings (or jackets) on the main gun, in an attempt to provide better fire control during sustained firing. While the U.S. Army indicates that a laser rangefinder has possibly been fitted to the T72, this may be too much of a technological jump for the Soviets; such a device may be too complicated and/or too delicate for inclusion in a simple, rugged field device such as a combat tank. It does not appear that an optical rangefinder has been fitted into the T72 (there are no rangefinder optical heads visible), it seems very probably that this tank continues to use a stadia measuring system for primary rangefinding. This system is probably built into the optical sighting equipment of both the commander and gunner.

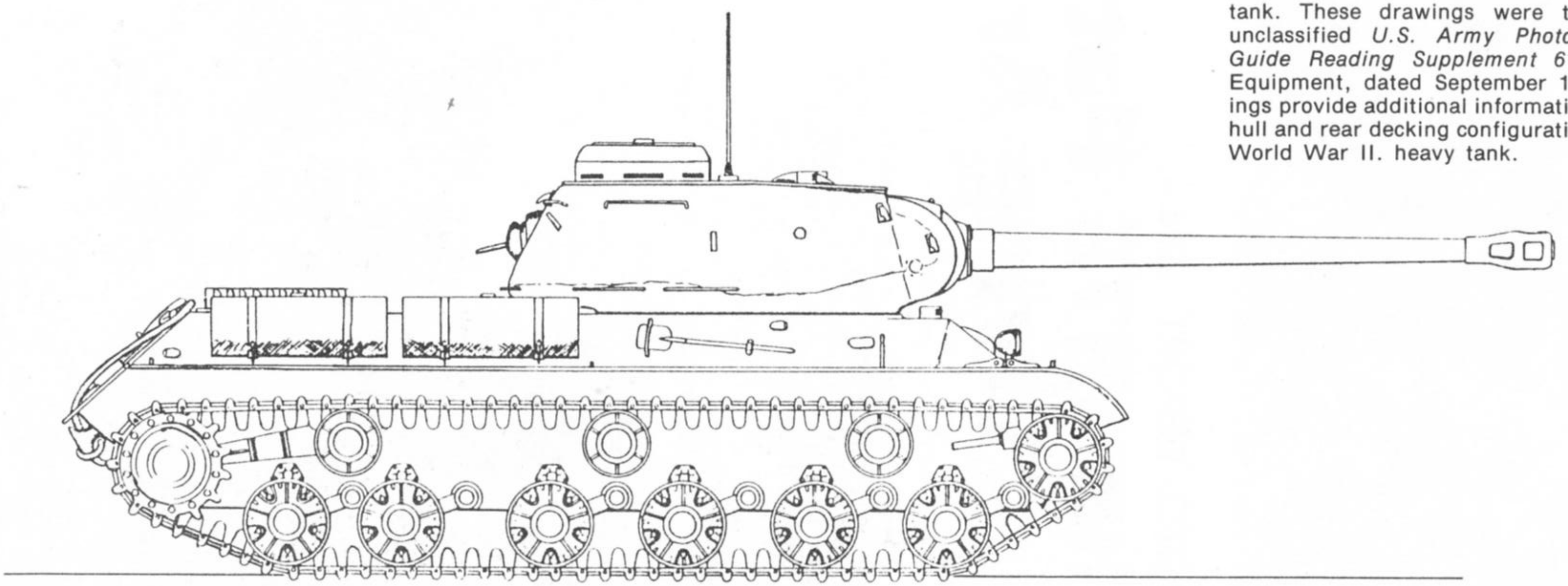
The exact form of the automatic loader is still a matter of guessing. Most western observers at this time seem to believe in a turntable-like affair positioned beneath the main gun. This turntable rotates as new rounds of ammunition are needed, and the new round of ammunition is hydraulically fed into the open gun breach with a ramming device positioned in the lower rear area of the turret. In this type of system, ammunition is spaced away from the turret walls and reasonally well protected by hull armor. It is clear that the T72 has a smaller ammunition supply than has the T62; this is due to the smaller size of the vehicle and additionally to the configuration of an automatic loading device.

The U.S. Army saw fit to comment on the amount of turret stowage on the T72. This seems quite natural since the T72 is obviously smaller than its predecessors and thus suffers more from a lack of internal storage space. The T54 family also suffered from lack of internal space and Polish-manufactured versions use the outer turret walls for stowage. Note that the usual deep-water fording device and a large canvas cover are stowed on the turret, along with a long rectangular box which probably contains tools and a sectioned gun cleaning rod. The three rectangular boxes fastened on the left side of the turret possibly contain the personal equipment of the three crew members, and other stowage boxes probably contain maintenance equipment and tools.

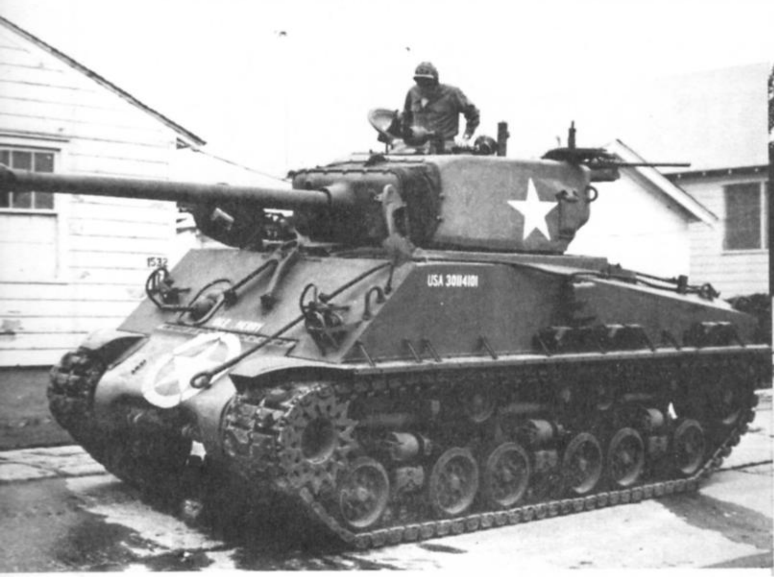
The T72 still remains something of a mystery vehicle, and since it is now in use with Soviet units in East Germany, more and better photographs should be cropping-up in both western and eastern magazines. As they are supplied to us, we'll print them for you...

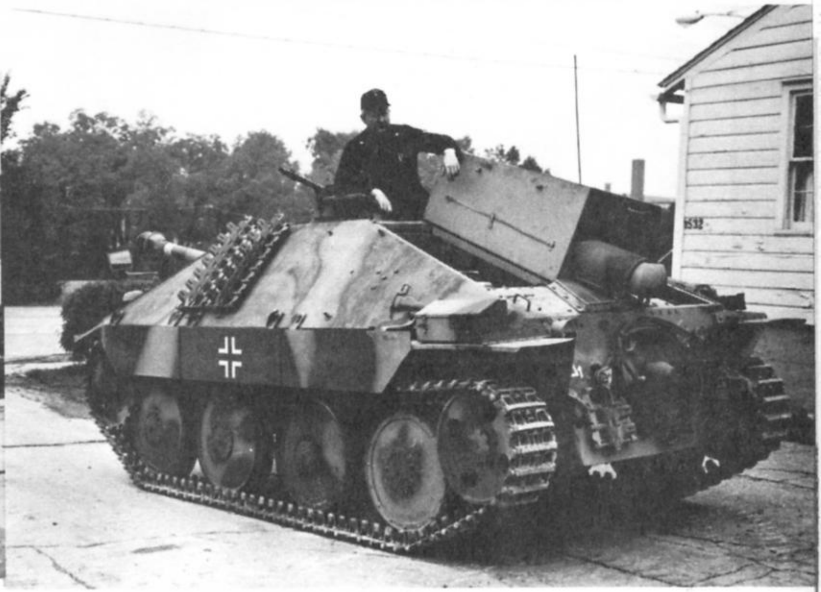
Soviet JS-2 Heavy Tank





The two-view drawings on this page were provided by John C. Britton, the author of the previous conversion article based on the Airfix 1:76th scale model of the Soviet *JS-III* heavy tank. These drawings were taken from the unclassified *U.S. Army Photo Interpretation Guide Reading Supplement 61510* on Soviet Equipment, dated September 1972. The drawings provide additional information on the upper hull and rear decking configuration of this Soviet World War II. heavy tank.





A PHOTO REPORT ON . . .

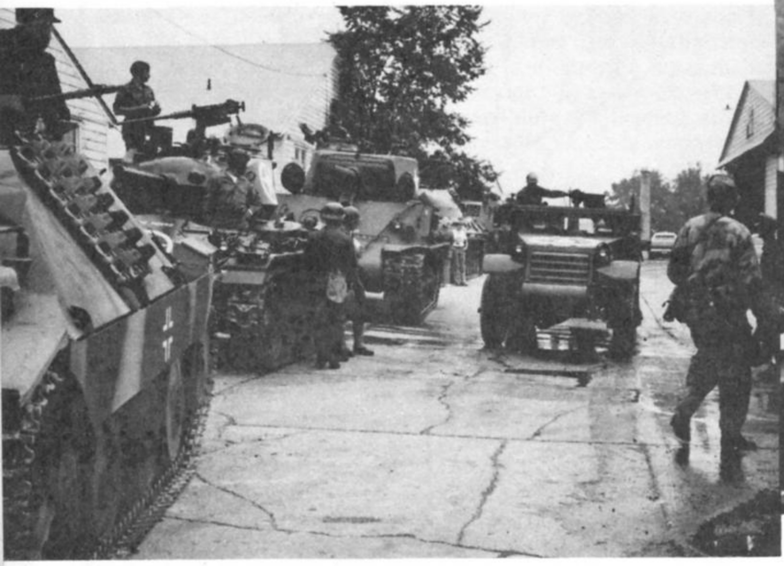
The 1976 Patton Museum 'Living Armor' Show

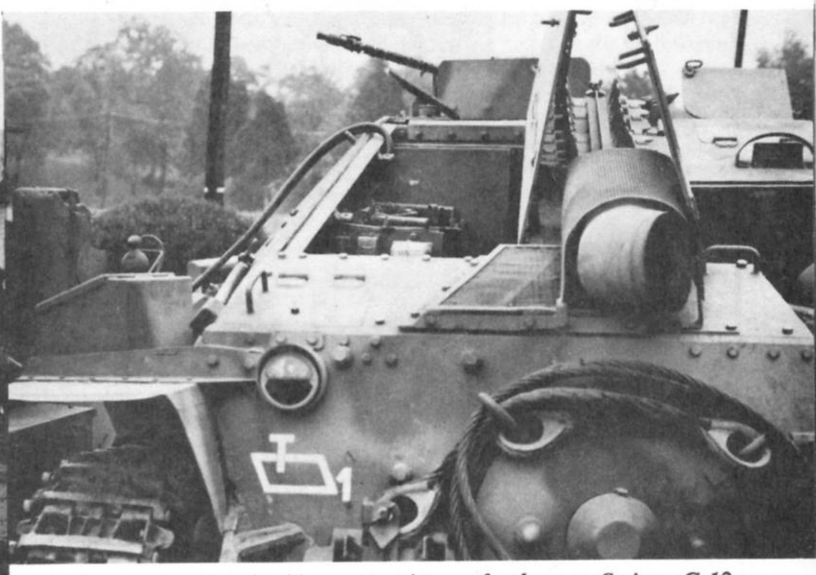
BY GARY SIMPSON

Although I have been to numerous armor museums in England, Europe and the States, my visit to the Patton Armor Museum this past summer will never be forgotten. The museum, at Fort Knox (the U.S. Army's Armor School) in Kentucky, is restoring its collection of armored vehicles; and each summer puts on a fantastic series of mock battles with those vehicles it has in running condition.

Visiting other AFV museums, one usually gets the feeling of, 'What did these iron monsters sound like, with their engines roaring and guns firing?' At the Patton Museum, however, you can see, hear, and even smell the exhaust fumes of these AFV's. You can see them maneuver for battle, watch their tracks tear-up the ground in a turn, hear the crash of their main guns, and feel the ground shake as the tanks roll past.

The Museum holds this 'Living Armor' Show each year on the Fourth of July; and I arrived from Boise, Idaho two days





Upper Left: A ¾ front view of the museum's M4A3E8 76mm gunned Sherman, nicknamed 'Ole Henry'. Note the mint condition of this beautifully restored vehicle.

Lower Left: Line-up of Patton Museum vehicles ready to move out from the staging area. Note the Hetzer in the foreground and the 'German' infantrymen next to the M24 Light Tank.

Upper Right: A ¾ rear view of the ex-Swiss G.13, camouflaged as a German Hetzer. *Note the open engine hatches, extra track, and towing cable. This vehicle is complete to the remote-controlled MG34 machine gun. The crew member is the vehicle driver.*

Lower Right: A close up of the rear of the Hetzer. *The cable coming into the vehicle was used to supply external power for starting purposes. This photo clearly shows details for modeling purposes; note the tail lights and tactical marking.*

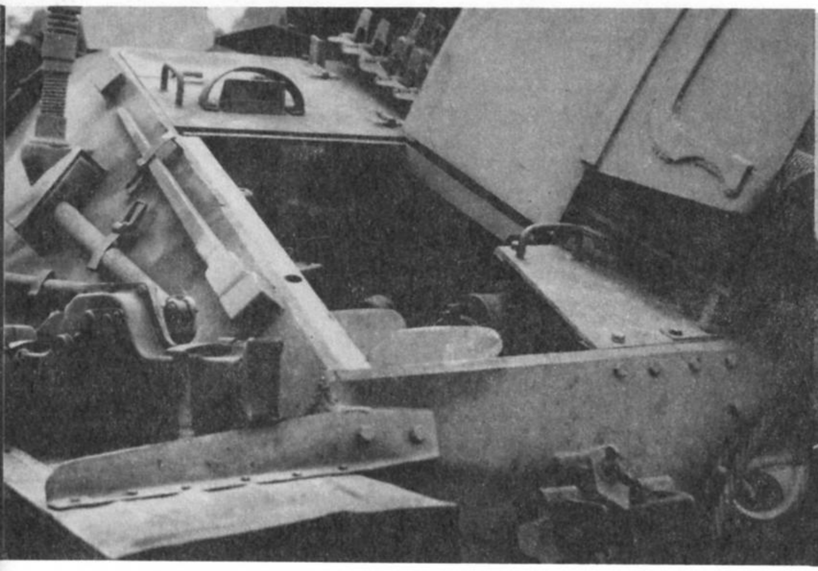


Photo Above: Another close up of the Hetzer *engine compartment. Note rear facing periscope, muffler cover, tools and antenna mount.*

Photo Above: Another view of the convoy proceeding to the museum; in this picture, you can see the M7B1 'Priest' and the M103 heavy tank.

before last year's great bi-centennial celebration. This gave me a chance to meet with the museum curator, Mr. Phil Cavanaugh, and watch the preparation for the show. The idea of restoring the museum's collection of AFV's to running condition was Phil's, and the results are fantastic!

The next day, we toured the storage building where the museum keeps its operational exhibits. The staff were loading-up for the show, and I was soon carrying the blank charges for the big guns back and forth and helping store them in the vehicles' ready racks. I enjoyed the work, to say the least.

I should mention that, except for the single 'Hetzer' (ex-Swiss G-13) tank destroyer, the Patton Museum has two of each vehicle type. Visitors to the Museum who have seen the outside exhibits know that they are in relatively poor condition. However, it should be remembered that each of these has a double kept in the storage facilities. When the museum facilities are expanded in the near future, the carefully preserved vehicles will be placed on display.

I returned to the storage building early the following morning. At 0730 hours on the fourth, the museum's collection of 'runners' were in the staging area, and it was very interesting and exciting to hear and see all of them crank-up their engines and rumble off under their own power. Phil Cavanaugh allowed me to cover the convoy and parade from the Tank Commander's position in the museum's Leopard Prototype. (As I am in a tank unit in the Idaho National Guard, this was a golden opportunity to compare the Leopard with the M-60A1. I can tell you that the Leopard is noticeably lower and faster.)

We pulled-out of the staging area at 0830 hours and headed for the main museum building for the pass-by parade. Rolling along the main streets of Fort Knox, I wondered at the reactions of the people on the streets — seeing a 'Hetzer' roll-by with German World War II. markings. It was a ten-minute drive to the museum where we formed-up for the pass-by. Each of the vehicles rolled up to the reviewing stand, where an announcer described it to the crowd. Then we clanked off to the area set aside for the mock battle and broke for lunch.

Since the Leopard and the M-103 were not used for the battle scenes, I had an opportunity to view the whole scene. The 'Hetzer' and 3.7cm Pak gun were to go up against the M4A3E8 Sherman, the M-24 Chaffee, an M7B1 105mm

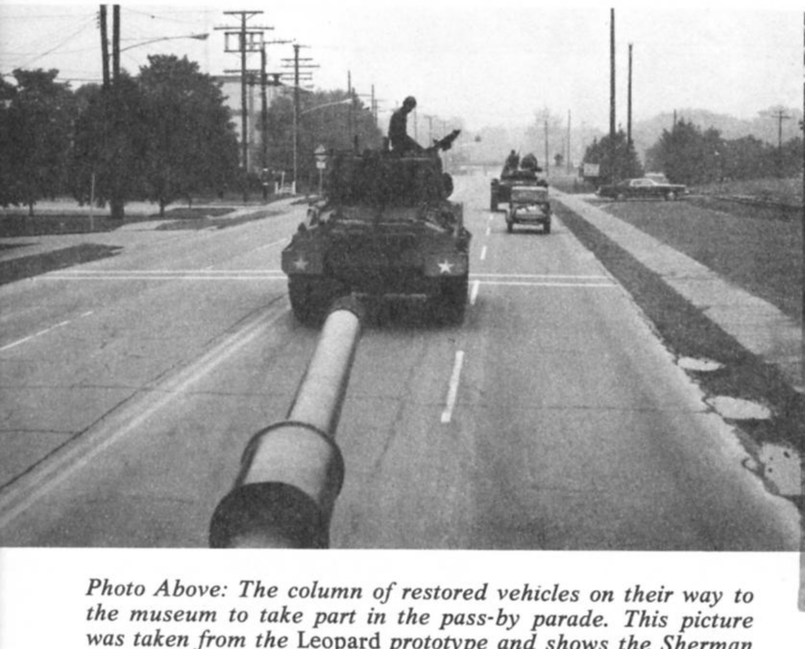


Photo Above: The column of restored vehicles on their way to the museum to take part in the pass-by parade. This picture was taken from the Leopard *prototype and shows the Sherman in the immediate foreground with a Volkswagen* Kubelwagen *and the M24 Chaffee ahead of it.*

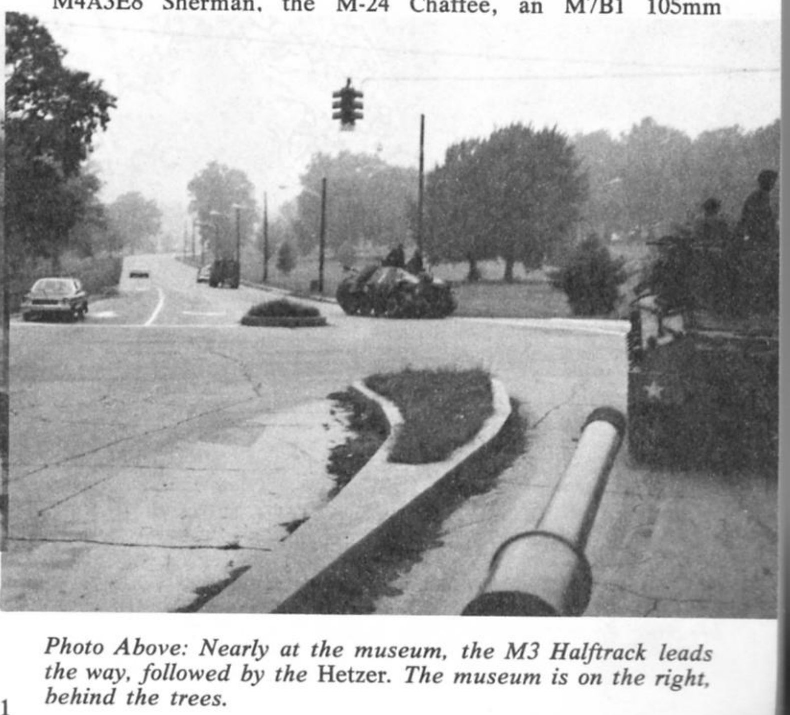


Photo Above: Nearly at the museum, the M3 Halftrack leads the way, followed by the Hetzer. *The museum is on the right, behind the trees.*

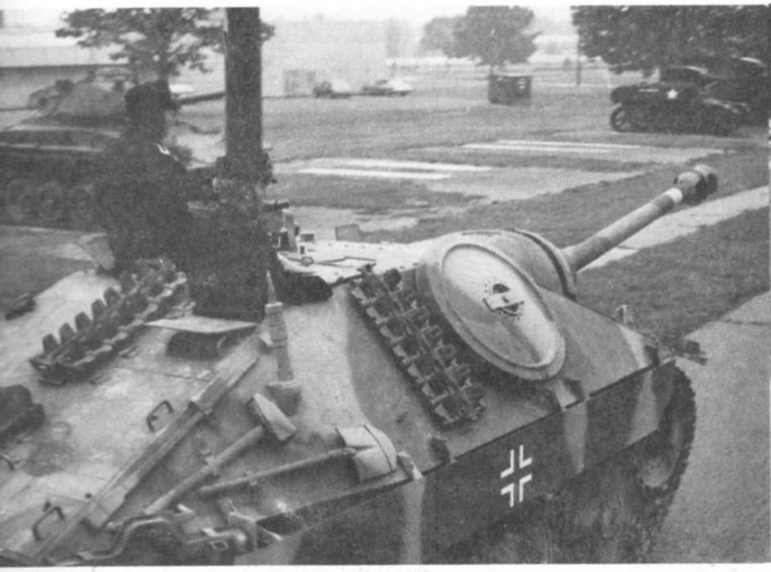


Photo Above: The Hetzer *waiting to move forward during the parade.*

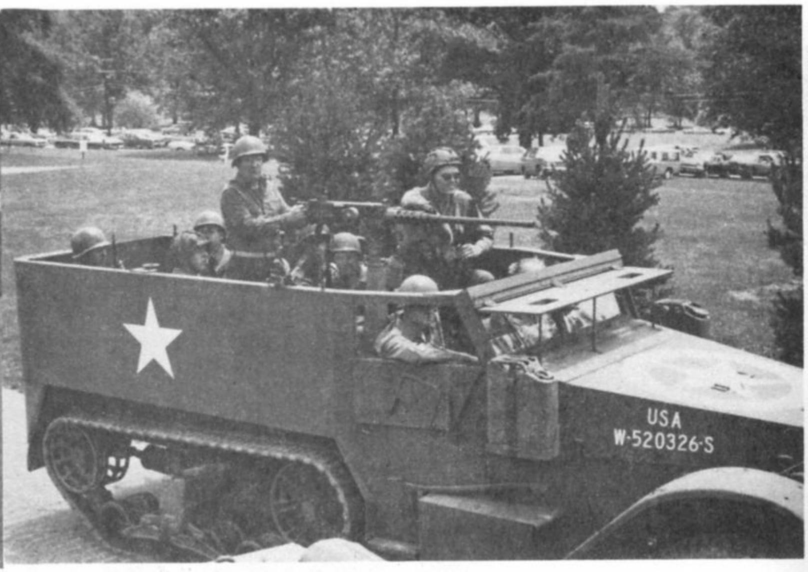


Photo Above: The M3 Halftrack and its crew as they took part in the parade. Note the authentic World War II. period uniforms.

self-propelled gun and an M-3 Halftrack. All the blank ammunition was fired off and the two German vehicles were 'knocked out'. (Hopefully, by this coming summer, the museum's *Panther, Ausf. G* will be fully restored and then the tide of battle may be turned against the American armor, so beware!)

After the 'battle', all of the participating vehicles were displayed for public inspection and were then returned to the storage building where they were washed and serviced, and had their weapons cleaned. It had been an unforgettable day...

Some Notes on the Patton Museum's Living Armor

The *'Hetzer'* was the hit of the 1976 show, and had attracted armor buffs for miles around. The vehicle was in immaculate condition and had a fantastic paint scheme which was better than some I saw on German World War II. *Panzers* displayed at *Wehrmacht* bases in Germany. (Editor's Note: We understand that the paint scheme was partially based on a Color 'n Camouflage article which appeared in *AFV-G2*). It also had all of its OVM ('On Vehicle Material') plus plenty of extra track for protection and for repairs. This vehicle was acquired from the Swiss, who used *'Hetzers'* in the post-war years.

All of the American vehicles were in superb condition. The final drive housing on the Sherman 'Easy Eight' had been changed just a few days prior to the show. (The museum staff are really 'on the ball' and want to keep these vehicles rolling...)

There has been much controversy about the Patton Museum's *Panther* medium tank. Although many armor buffs think that it is a *'Panther II.'*, it is in fact a *Panther Ausführung G*, but with the *Tiger II.* track and road wheels. The *Panther II.* was to have a new turret — the *Panzerturm 'Schmal*, similar to that fitted on the *Sd.Kfz. 234/2* heavy armored car — and carry either a 7.5cm L/100 gun or an 8.8 cm L/71 gun. Careful examination thus indicates a *Panther Ausführung G* medium tank with the *Tiger II.* track system.

The museum also has a Soviet T-34/85, which they hope to restore soon. This, coupled with the *Panther* restoration, will be used to perform a Russian Front demonstration some time in the future.

Other new additions include an M3A4 'Lee' from Brazil and an M31 Armored Recovery Vehicle from Grafenwohr, West Germany. The latter vehicle has had the boom and dummy gun removed to make it look like a standard M3 Medium Tank; however, if you get a chance to look inside the vehicle, you'll

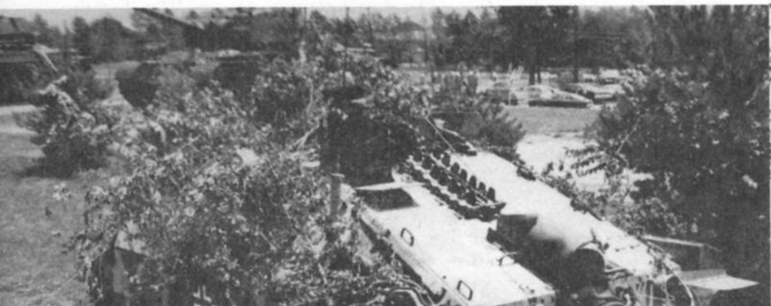


Photo Above: Another view of the Hetzer *just before the start of the mock battle. Note how effective external camouflage is in breaking up the outline of the vehicle.*

Photo Above: If you could do away with the spectators, this would be a scene right out of the ETO.

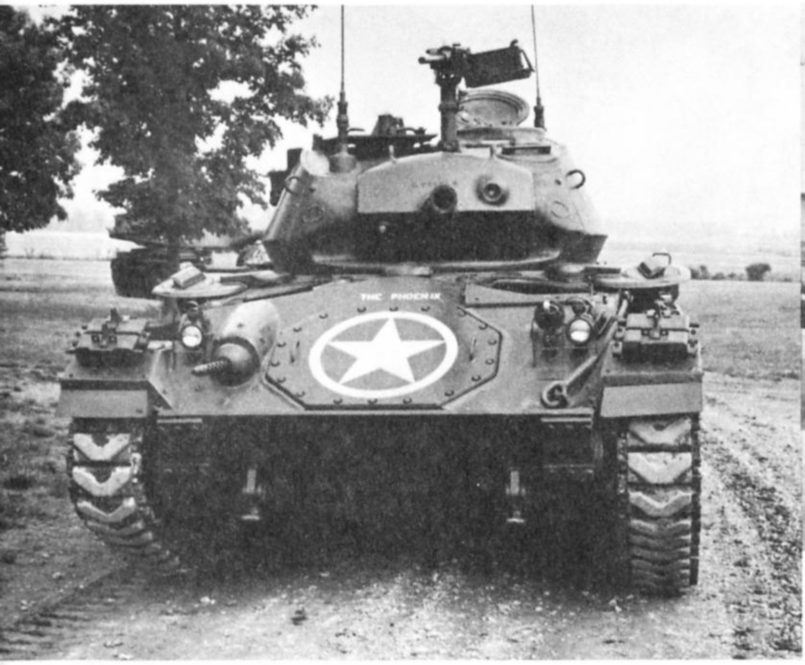


Photo Above: A front view of the museum's beautifully restored M24 Light Tank, which carries the nickname 'The Phoenix'. This vehicle is complete to the original World War II. period radios.

find the recovery winch and all the other modifications that made-up this especially rare vehicle.

The staff has already restored an M3A1 Scout Car obtained from Greece and they have a nice *Panzer III.* and *Sturmgeschütz III.* in storage. These would be most welcome in the 'Living Armor' demonstrations.

On the way to the museum is the Russian T-62 now at the Evaluation Center at Fort Knox, and a T-28 Heavy Tank from Fort Belvoir, Virginia. Unfortunately, Phil Cavanaugh told me that the T-28 may have to be cut up and then reassembled, as it is now located where it has to be brought over a particular bridge which just can't take all that weight. I hope that another solution can be found.

In conclusion, I would like to thank Mr. Phil Cananaugh for all of his efforts and consideration. The professionalism and dedication of Phil and his fine museum staff is unique among the many AFV museums I have visited. Others may have more vehicles, but the Patton Museum has the edge in quality if not in quantity.

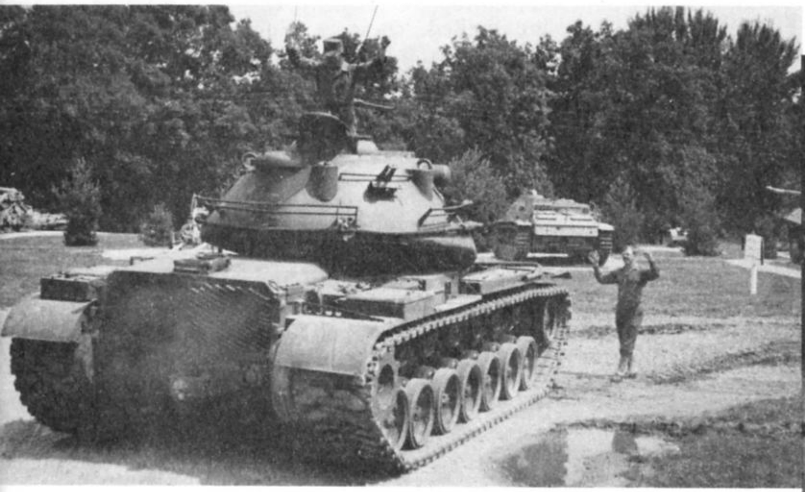


Photo Above: The M103 Heavy Tank being ground-guided. Since the driver cannot see to the rear, backing up takes the full attention of several people; the tank commander judges distance and the person on the ground relays his signals to the driver.

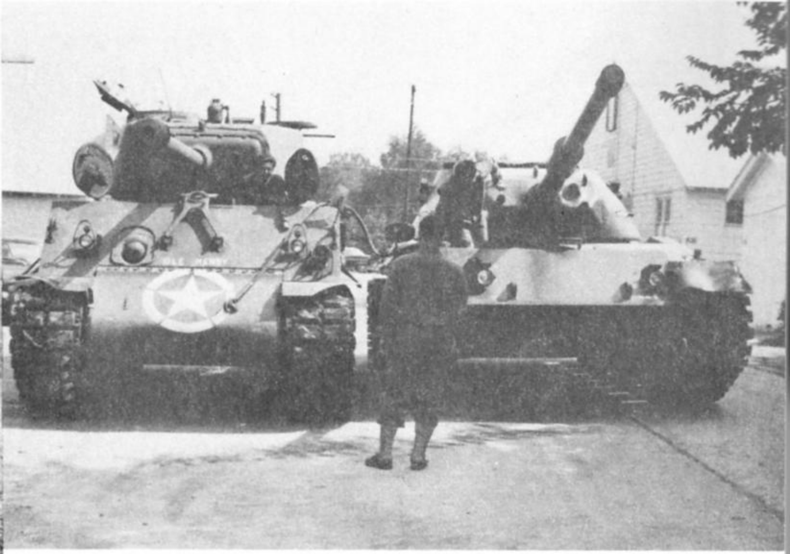
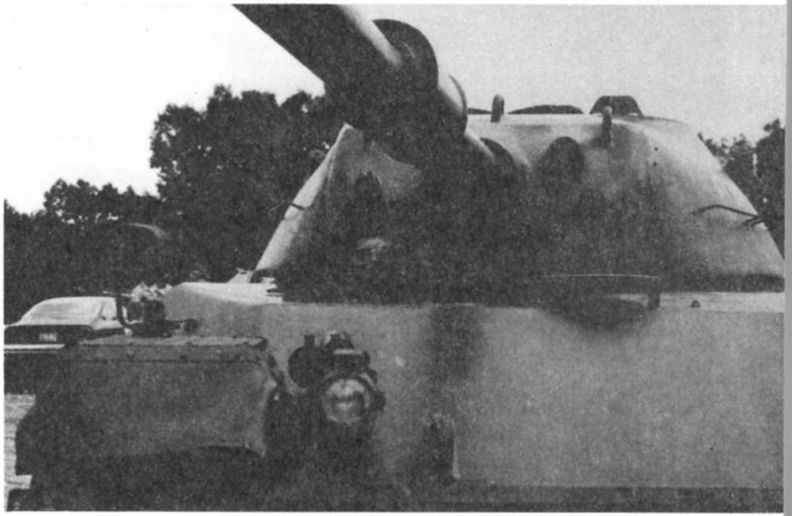
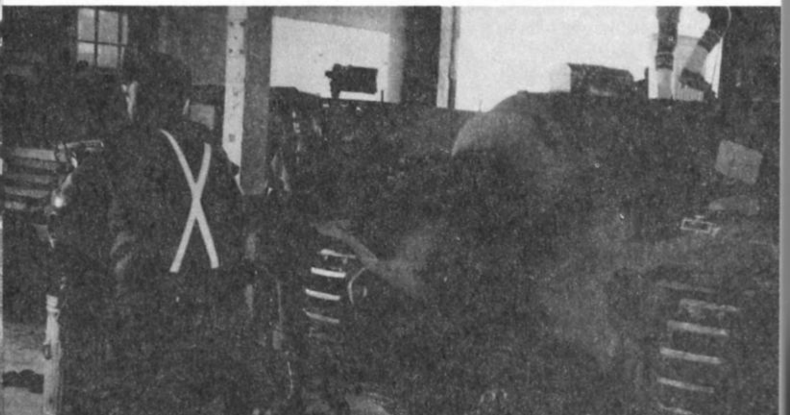


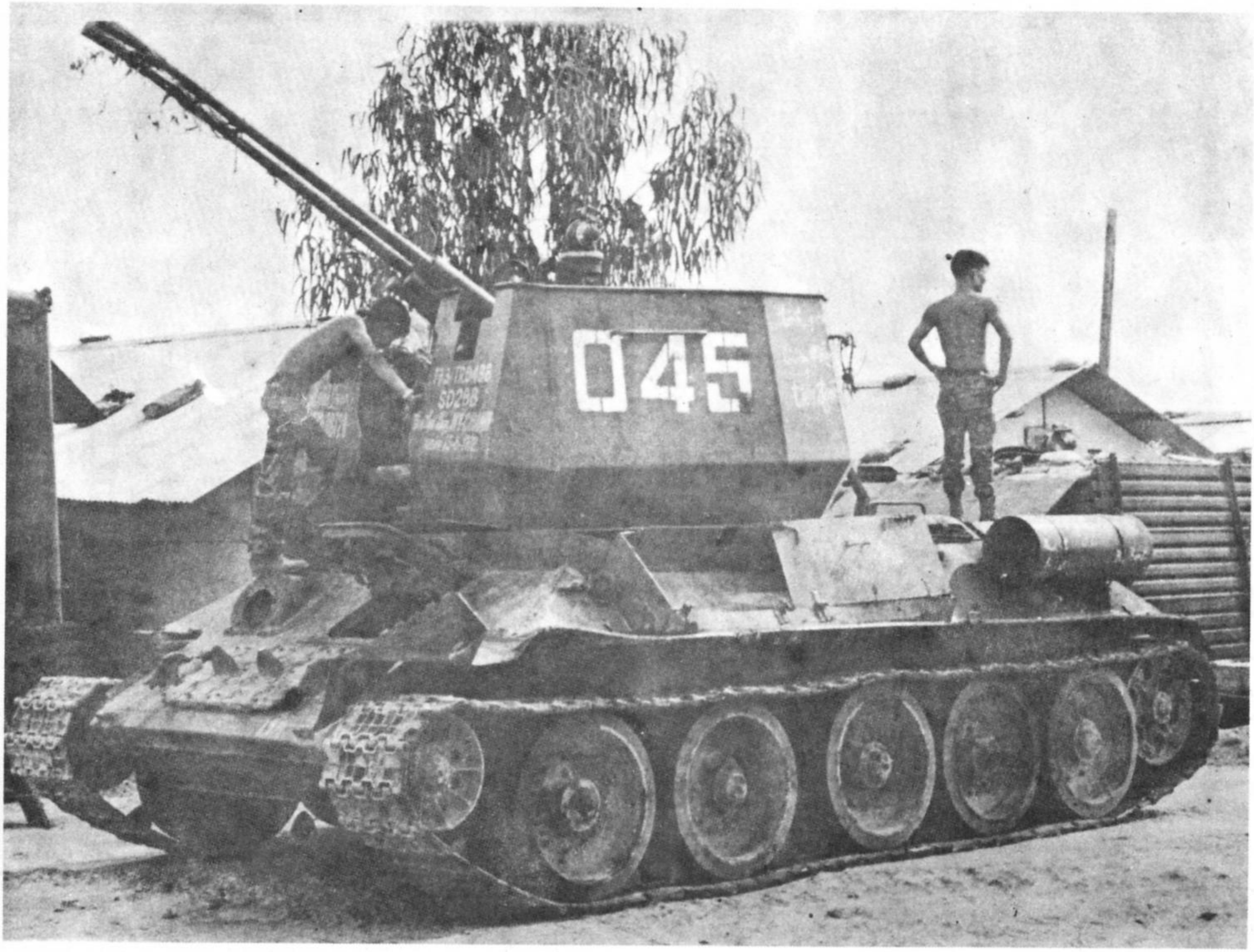
Photo Above: The old and the new; the M4A3E8 sitting next to the prototype Leopard. *Note the difference in height between these vehicles.*



Photo, Above: A frontal view of the prototype Leopard *medium tank. This vehicle was provided to the Patton Museum by the Federal Republic of Germany. Note the external resemblance to the* Panther *in this view.*



Photo, Above: Even the post-battle clean-up looked like it was something from World War II. In the background can be seen the M3 Halftrack, while the Hetzer's *muzzle brake is being cleaned by a 'German' crewman.*



A Communist Chinese AA Tank

One of the most unusual pieces of armor to have been discovered during the Vietnam War was a modified Russian T-34 which was made into an anti-aircraft vehicle. The vehicle was captured by the South Vietnamese 4th Infantry Regiment and was turned over to U.S. troops shortly thereafter. Luckily, the vehicle was evacuated from Vietnam (as one photo in this article shows) and, as far as is known, was sent to Aberdeen Proving Ground for test and evaluation. The present whereabouts of this vehicle is unknown.

The vehicle consists of a standard T-34, from which the turret was removed. A steel plate was placed over the turret well and secured by 27 bolts to the hull. A steel beam was welded to the floor of the tank and to the circular plate as a support brace for the weapon. The anti-aircraft weapon consists of a Chinese Communist Type 63 Dual 37mm Gun. This weapon was removed from its wheeled carriage and placed on the steel plate over the turret well, with the traversing gear box (beneath the gun) being bolted to the center of the steel plate. A crudely-formed armored turret was fabricated and bolted to the gun mount so that it traverses with the weapon. This modified turret provides protection for the gun crew and apparently assists in stabilizing the dual weapons. It should be stressed that no modifications were done to the basic T-34 chassis or to the anti-aircraft gun system, other than noted above. The 37mm gun system retains the original hand-cranked traverse and elevation mechanism; the system traverses 360° and has an elevation from —5° to +85°. A crude turret lock, fabricated from channel iron, and similar in appearance to a ladder, is located directly behind the turret. This locking system immobilizes the turret during travel. It appears that ammunition stowage is quite limited. On each side of the turret, fastened to the hull sides, is a large metal ammunition storage container. These containers apparently hold wooden ammunition crates; however, the gun crew must expose themselves to bring ammunition to the gun. There are apparently no other ammunition racks within the vehicle. Electrical power for the weapons system sights is brought from the driver's compartment to the turret via cable.

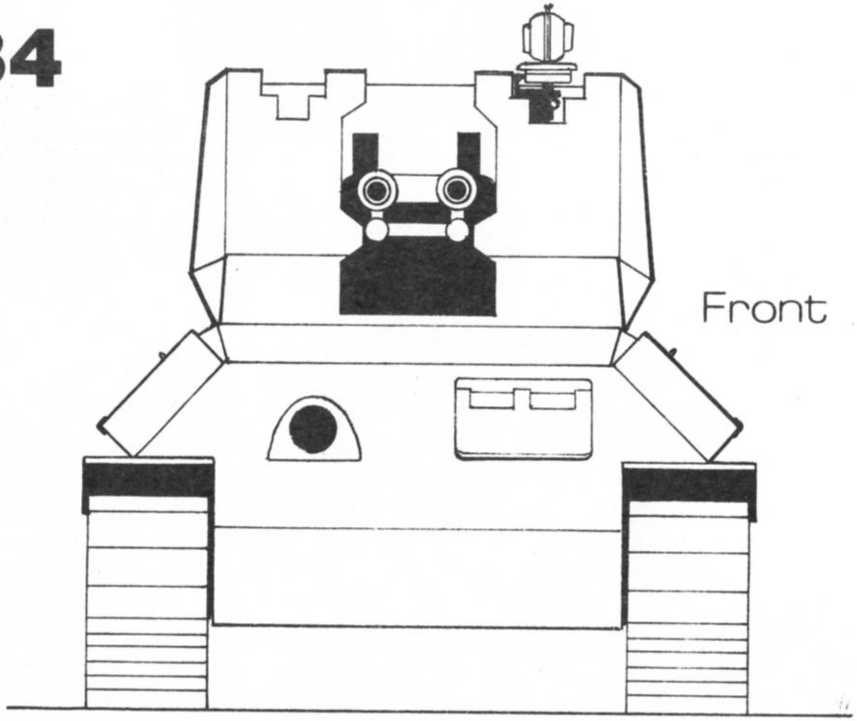
Technical specifications are as follows: Overall Height — 9 feet; Length of Turret — 9 feet, 10 inches; Width of Turret — 9 feet, 9 inches; Height of Turret — 4 feet; Thickness of Armor on Turret — 5/8 inch.

It is not known if this is a standard Chinese Communist modification to provide anti-aircraft protection to mobile units; however, the example shown in the pictures was undoubtedly supplied to the North Vietnamese by the Chinese. We would appreciate any comments, corrections, or additional data from readers.

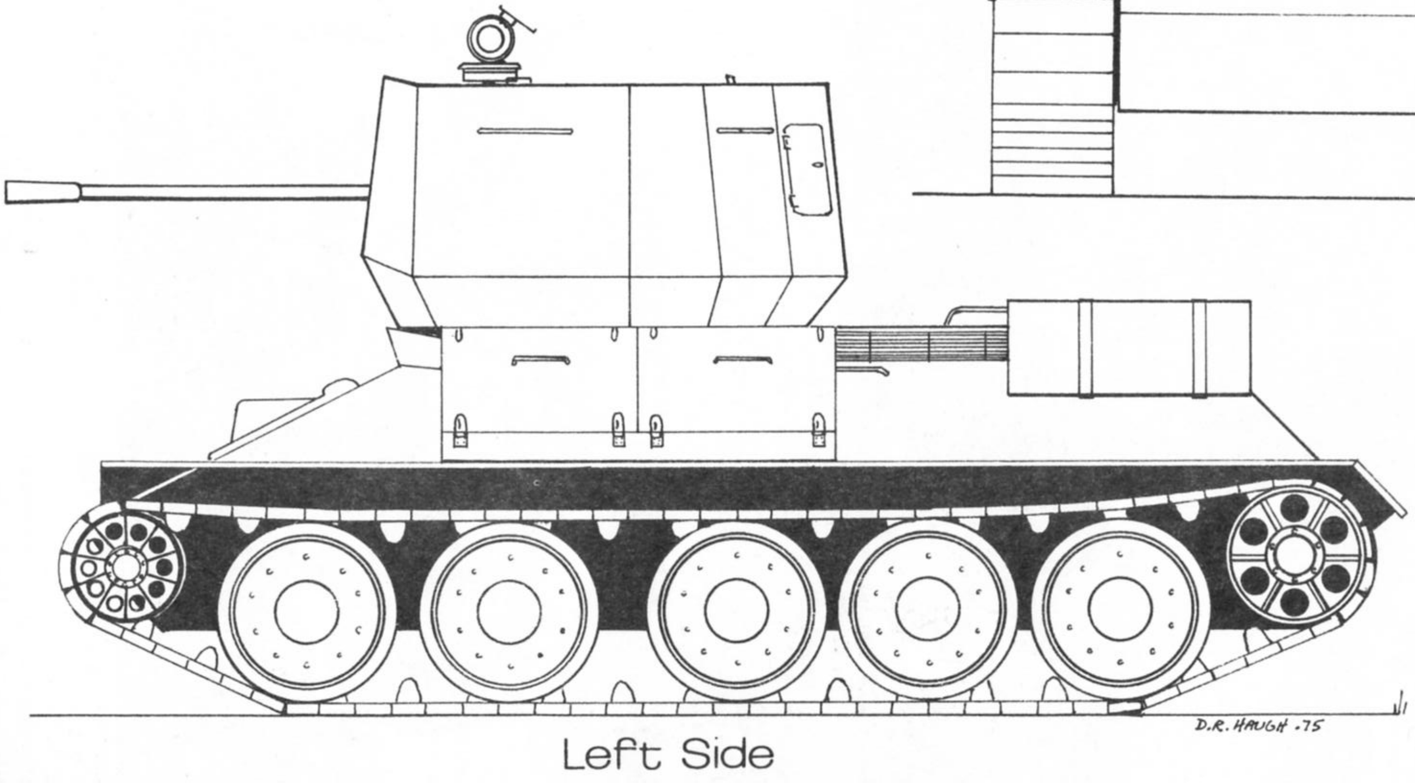
Photo, Above: A front view of the Chinese Communist vehicle being examined by South Vietnamese soldiers. Note the spare track on the hull front, the bow machine gun mount [which is missing the ball and weapon] and the shape of the turret. The cut-outs on the front of the turret were made to accomodate weapons sights. Photo Credit: LTC. James W. Loop

Chinese Modified T-34 Anti-Aircraft Tank

Drawn by D. R. Haugh



Front



Left Side

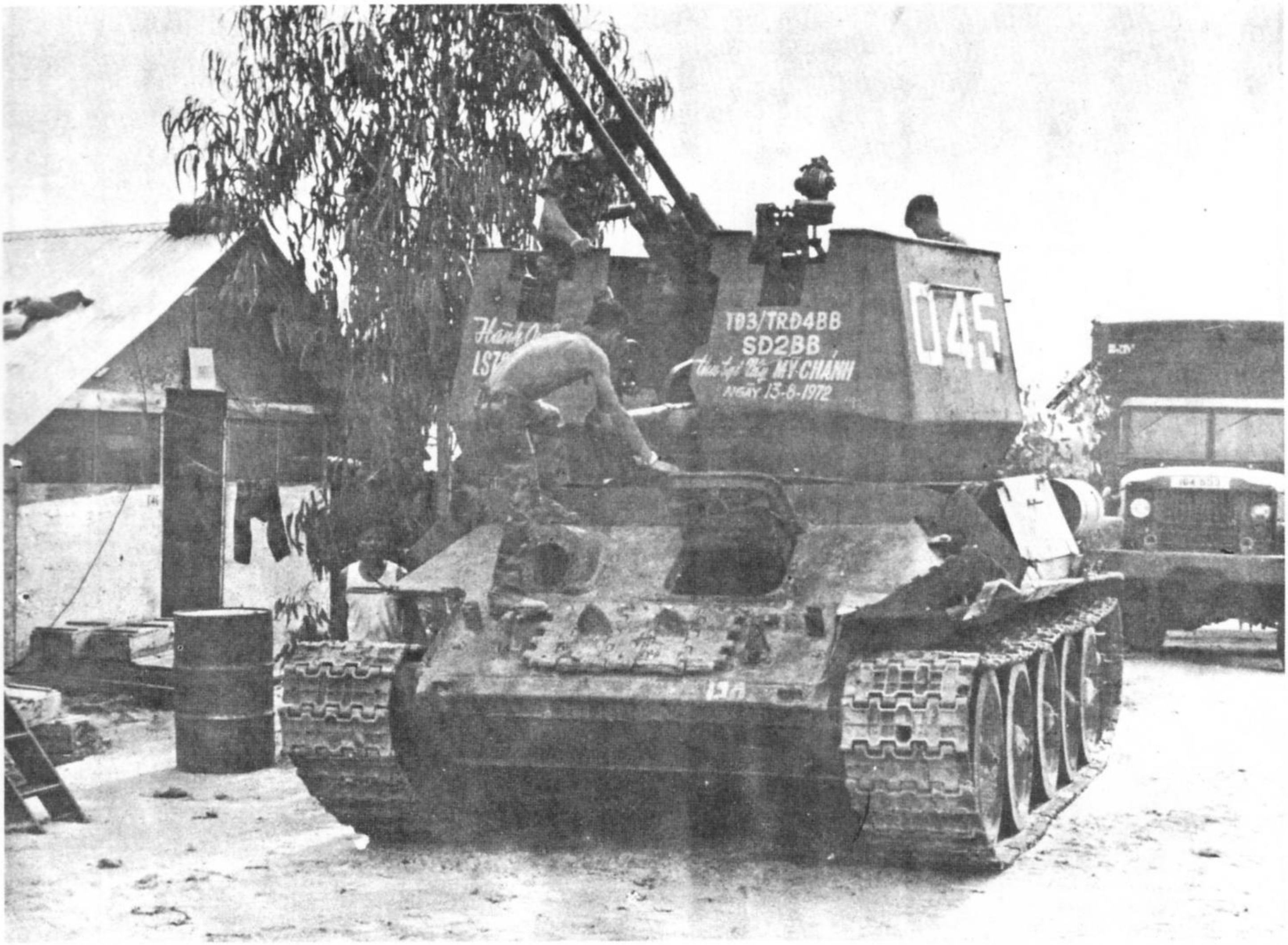
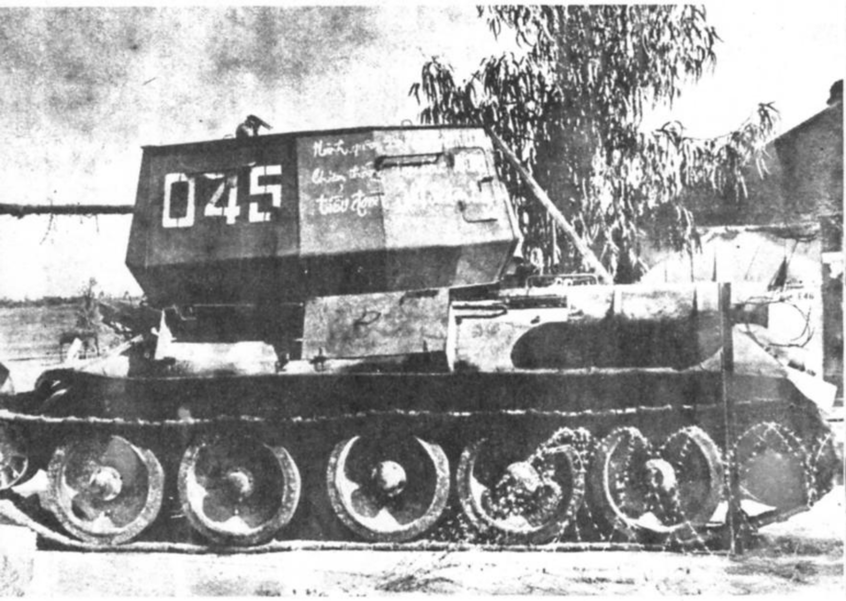
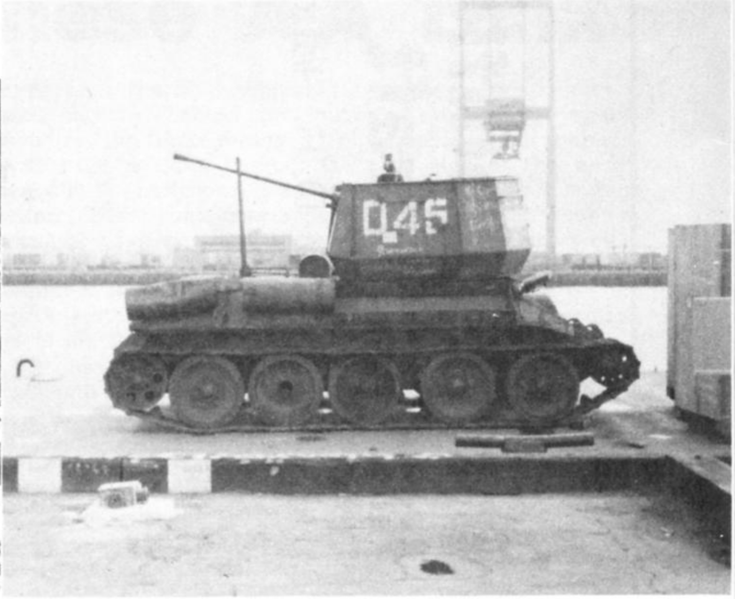


Photo Above: A ¾ front view of the Chinese Communist anti-aircraft vehicle. Note the rear fuel containers which are standard on the T-34 medium tank. The white lettering on the turret sides indicates the South Vietnamese unit which captured the vehicle. The color of this vehicle was light gray with white numbers and lettering. Photo Credit: LTC James W. Loop





Photo, Above Left: A side-view of the Chinese Communist vehicle with guns pointing forward. Note the travel lock on the rear deck, leaning against the turret rear. Also note the hand rails and small door at the rear of the turret. The ammunition storage box is shown open in this photo. Photo Credit: LTC James W. Loop.

Photo, Above Right: The Chinese Communist modified T-34, shown after arrival at Bayonne, New Jersey in the summer of 1975. Note the travel lock on the rear deck, holding the 37mm guns for travel. Photo Credit: Mr. J. Mack Cobb

The Canadian Army Motor Battalion, 1943-45

by Paul Cardwell, Jr.

The Canadian Army during World War II. had two Motor Battalions, which were essentially motorized infantry units *attached to Armoured Division. These were the Westminster Regiment* from British Columbia and the *Lake Superior Regiment* from Ontario. Before going overseas, these regiments had been machine gun units, but by 1942, the lessons of the *Blitzkrieg* had been learned and training started all over in Britain to convert these units into a mobile force.

In the case of the '*Westies*', re-equipping took place outside of Naples, with armored equipment which had already seen considerable service in North Africa with the *First Rifle Brigade* of the '*Desert Rats*', supplemented by Canadian softskins. It took from 29 November to 8 December 1943 for the unit mechanics to replace the sand-scoured brakes and Universal Carrier transmissions, and in general to get the equipment in fighting condition again.

The Motor Battalion strengths and authorized equipment came from *Cdn. II./231/2*, which was effective from 24 August 1942. This order logically replaced *Cdn. II./231/1*. In service, lend-lease White M3 Halftracks began replacing the White M3A1 Scout Cars. In the case of the '*Westies*', the 'book' requirement for trailer-mounted 20mm guns never got put into practice, and these weapons were never used. Indeed, the historians of that regiment can't even come-up with the precise version of this weapon which was intended.

The Establishment (as a TO&E is termed) called for a total of 39 officers; 61 sergeants, staff sergeants (Quartermaster sergeants), and warrant officers (regimental and company sergeants-majors); 79 corporals (the regulation's 12 lance-sergeants just didn't exist in reality); and 643 privates (including 66 lance-corporals and 36 privates from the Canadian Armoured Corps, who served as radio operators). Since the Battalion was a self-contained combat unit, it also included 18 men from the Royal Canadian Ordnance Corps (2 sergeants, 5 corporals and a lance corporal), and 17 men from the Royal Canadian Service Corps (5 corporals and 12 privates) who were attached to the Battalion. This gave the unit a book strength of 857 men.

Heavy weapon support was provided for the Motor Battalion in the form of 2-inch and 3-inch mortars, PIAT anti-tank projectile launchers, and Mark IV. six-pounder anti-tank guns. Personal and vehicle defense arms included: .38 caliber Webley revolvers, .303 caliber Lee-Enfield rifles, Machine Carbines, both the 9mm Sten and the .45 caliber Thompson sub-machine gun, .303 caliber Bren light machine guns, and .303 caliber Vickers medium machine guns. Although not mentioned in the Establishment, grenades and bayonets were, of course, also commonly used. Commissioned officers were required to carry a pistol at all times, and they also carried a Thompson SMG when conditions indicated. Motorcyclists carried a 9mm Sten gun folded in the saddlebags, rather than on a front fork holster, as was the practice with the larger and heavier Harley-Davidson motorcycles.

Quite a variety of vehicles were used; these included single seat, one cylinder Norton motorcycles (although there was a pillion seat over the rear wheel, these were regarded as 'single seaters'); Willys or Ford 'Jeeps' (which were designated as 5-cwt 4x4's); HUP's (an abbreviation for 'Heavy Utility Personnel'); Chevrolet 8-cwt General Service (GS) trucks; Chevrolet 4x4 utility trucks; White M3A1 Scout Cars (usually designated as 15-cwt armored trucks, and commonly called 'Whites'); 15-cwt General Service Chevrolet 4x4 utility trucks (of Canadian Military Pattern, naturally); Universal Carriers (which were usually Ford Number 3, Mark II. types) in both standard and 3-inch mortar versions; Daimler 4x4 armored cars, nicknamed the 'Dingo'; and water trailers (which were 180 imperial gallon types, 20-cwt, with two wheels and having a pump and filter system. The 3-ton truck appeared in three variants, all identical except for the cargo bed. The standard General Service (or GS) type had benches along the sides for cargo and personnel. The Medical type had stretcher racks on the left side and benches along the right side. The Stores version had built-in racks and shelves to carry spare parts. *Some of the White M3A1 Scout Cars were modified so that they were similar to the Medical 15-cwt trucks; when so converted,* they were used for front-line ambulance service.

The Battalion Headquarters for the Motor Battalion contained the Intelligence Section, a Military Police Section, a Communications Center, and the Command Section (which contained the top brass). Intelligence personnel were mounted on Norton Motorcycles, while the Intelligence officer was in a 'Dingo' which was armed with a Bren machine gun. The Battalion's Police Department were also mounted on Norton motorcycles. A Jeep carried the Headquarters Repair personnel. The Lieutenant Colonel, who commanded the Battalion, with his batman and driver were in a HUP. GS variants of the 15-cwt (or 3-ton) truck, equipped with radios, carried the remainder of the staff officers, while a Universal Carrier with a Bren gun provided an additional radio link. The Chaplain used either a 'Dingo' or a Jeep.

The Battalion's Headquarters Company was divided into a Company Headquarters, a Signal Platoon, and an Administrative Platoon. The Company Headquarters consisted of a single Norton motorcycle and a White M3A1 Scout Car equipped with a radio, which carried the Company Commander. The Signal Platoon was composed of five Norton motorcycles, a White M3A1 (which carried the Platoon Lieutenant) and a couple of 15-cwt. GS trucks. The Administrative Platoon consisted of an even dozen 15-cwt (3-ton) trucks, one of which was the Medical variant and five of which were the Stores form. The 15-cwt GS types carried a Bren gun and a PIAT launcher, and would have towed the 20mm guns, according to the Establishment.

The principal fighting element of the Motor Battalion consisted of three identical Motor Companies. Each of these was made-up with a Company Headquarters, a 3-inch Mortar Detachment, a Company Administrative Detachment, three Motor Platoons and a Scout Platoon. The Company Headquarters was equipped with three Norton motorcycles and two radio-equipped White M3A1 Scout Cars for the officers. the 3-inch Mortar Detachment had two Universal Carriers with a mortar and a radio each, and ammunition was carried in a 15-cwt GS truck, which also transported the Detachment's PIAT. The Administrative Detachment had one Norton motorcycle, one Jeep, and two 15-cwt trucks (one GS and one Stores types), and the unit served primarily as a supply unit.

Each of the three Motor Platoons was equipped with one Norton Motorcycle and four White M3A1 Scout Cars. Of course, as soon as they became available, the White M3 Halftrack was used to replace the Scout Cars as the M3A1's were underpowered and lacked good cross-country mobility. One of the Scout Cars/Halftracks was equipped with a radio, and it served as the Platoon Headquarters vehicle; the Norton was used as a messenger vehicle. Each of the non-radio equipped M3A1's carried a Bren light machine gun and transported the riflemen of the Platoon.

The Motor Company's Scout Platoon was the principal reconnaissance element of the Company, and it was organized with a Headquarters and three Scout Sections. The Platoon Headquarters had two Norton Motorcycles, a 15-cwt. GS truck, two Universal Carriers with Bren light machine guns (one of which was also equipped with a radio), and a Bren-armed 'Dingo' armored car. Each of the three Scout Sections had three Universal Carriers, one of which had a radio (for communications with the Headquarters) and all were equipped with Bren light machine guns.

The Support Company of the Battalion consisted of a Company Headquarters, three Anti-tank Platoons, and a Medium Gun Platoon. As might be expected from the title, this company provided fire support for the Motor Companies of the Battalion. The Company Headquarters had three Norton

Continued on Page 48

CANADIAN MOTOR BATTALION

BATTALION HEADQUARTERS

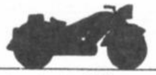
CDN. II./231/2,
24 August 1943

1 Pvt. Intelligence (SMG)

1 Pvt. Intelligence (SMG)

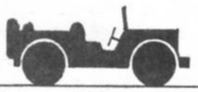
1 Sgt. Intelligence (SMG)

1 Sgt. Provost (P, SMG)



1 Pvt. Intelligence (SMG)

1 Pvt. Intelligence (SMG)

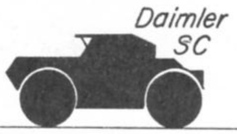


1 Sgt. Fitter RCOC (SMG)
1 Pvt. Motor Mechanic (R)

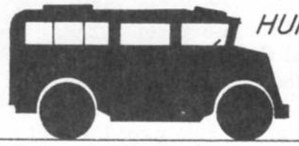
1 Pvt. Regimental Police (P, SMG)

1 Pvt. Regimental Police (P, SMG)

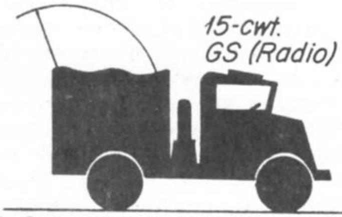
1 Lieut. Chaplain
1 Pvt. Batman-Driver



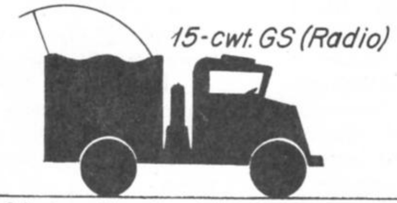
1 Lieut. Intelligence Officer (P)
1 Pvt. Batman-Driver (SMG)



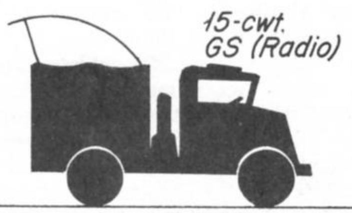
1 Lt.Col. Battalion Commander (P)
1 Pvt. Batman (R)
1 L/Cpl. Driver IC (SMG)



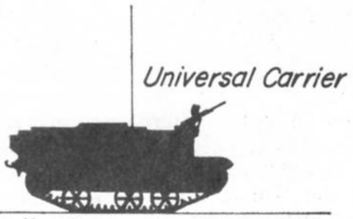
1 Capt. Technical Officer (P)
2 Pvts. Radio Operators CAC (R)
1 Pvt. Batman-Driver (SMG)



1 Major Bn. 2nd-in-Command (P)
1 WO1 RSM (SMG)
1 Sgt. Clerk (R)
1 Pvt. Batman (R)
2 Pvts. Radio Operators CAC (R)
1 Pvt. Batman-Driver (SMG)



1 Capt. Adjutant (P)
1 Pvt. Clerk (R)
2 Pvts. Radio Operators CAC (R)
1 L/Cpl. Driver IC (SMG)



1 Pvt. Radio Operator CAC (R)
1 Pvt. Driver-Mechanic (SMG)

** May be replaced by Daimler Scout Car*

CONTEST JUDGING: Some Mixed Responses

The following 'responses' were written as a result of a letter which appeared in the *'Muzzle Blast'* column of Volume 5, Number 9 of AFV-G2. This letter apparently aroused quite a few, diverse feelings, and we will be presenting (in this and future issues) some of the most coherent responses.

I feel sympathy for 'Name Withheld', both for his problem with capricious judges and the very real fear which compels him to remain anonymous. All of us who have been in contests to any degree have felt this way at one time or another and it is high time this issue was brought forth. Charges of sour grapes, poor sportsmanship, and over-inflated ego naturally gravitate to such protests, which, with the judges' anonymity, keeps them almost immune to criticism. I hope some experiences from the Lower Mainland Region of IPMS-Canada can be of help.

Our policy on contest judging has evolved over the years, working for a long time with the admittedly imperfect ballot-by contestants until we could train a core of skilled judges. Training takes place informally in chapter contests and 'rip sessions'. The latter is a voluntary exercise in masochism which involves putting the model on the table while the rest of the members try to find fault with it. It was originally used to accellerate the development of modeling skills, but we found that the judgemental abilities were being developed just as rapidly since frivolous or catty remarks were not tolerated by the other rippers. Emphasis in these rips was placed on the basic skills N.W. mentioned — seam puttying, flash removal, sink-hole filling, etc., and on historic accuracy. This latter educated the modeler to provide documentation with the model — a habit a good judge always appreciates.

Now we have a dozen or more trained, experienced judges, with personal areas of expertise in all subjects of modeling. Presently we are compiling a register of these qualified judges for use by local hobby store contests. The average judge is involved in judging three or four contests a year, but with the register, we hope to up this to at least five. This will help the judge keep in practice.

We judge models in five areas: workmanship, difficulty, finish, accuracy, and originality, plus an 'overall impression' of how these five work together which is, in practice, basically a tie-breaker.

Workmanship concerns assembly — the flash removal, lack of glue stains, smoothness of putty work, correcting mold flaws, etc. Because the judges are familiar with the kit market, they know what has to be done to a kit to produce a good model, and where a seam is on the prototype so they don't count off for an unputtied seam on the model.

Difficulty is fairly self-explanitory. Kits with bad fit made into a good model get 'points' here. We divide our contest categories into kit, conversion, and scratch to avoid a scratch-built from having an unfair advantage in difficulty, although generally it would be countered in the workmanship points unless a master was building it — in which case, he deserves to win anyway. However, in major contests, there are so many of these masters, it is fairer to divide by model origin. Accessory detail, scratch-built parts (when not numerous enough to make it a conversion), and fineness of detail get the 'points' here.

Finish refers not only to how good a paint job is, but also to decals (lack of bubbles, invisibility of film, alignment, correct placement, etc.) and weathering as well. Weathering particularly gets close attention as it is easy to overdo.

Accuracy is where documents exert a definite influence on the judges. Do the variant and finish match? Does the dust match the dirt in that part of the world? Is there the correct degree of sharpness/blend of the colors? Is the finish correct on the flat/gloss continuum? In the case of free-lance models (those designed by the modeler) feisability substitutes for accuracy.

As Monty Python says, 'And now for something completely different.' We get in ruts in modeling. Every Fokker Dr. I. is solid red, every Tiger is Wittmann's, a model is built straight from the box. The originality category helps encourage a little research on the subject and variety in the presentation. Originality 'points' are also given for totally new techniques. In a recent contest one diorama had two of these breakthroughs — a rust simulation which duplicated the texture as well as color, and a tall prairie grass technique which did not involve planting each individual clump. It is from such incentives that the state of the art in modeling improves.

References to 'points' above is in quotes because it is not a mathematical exercise. In spite of all our attempts, judging is still a subjective area and therefore subject to human frailties. We try to reduce this by having trained judges and by both encouraging the contestants to supply documentation and by having entry forms with plenty of space for notes on unusual construction techniques, reference sources, kit basics, etc.

Finally, we do not believe in anonymous judges. Any judge is available for discussion of why a model was given the place it was in the contest. These informal and more gentle 'rips' also serve to improve the modeler's ability. They also keep the judges on their toes because they know they may be called into question on the matter. However, it is understood that the judge's decision is final. The contestant is responsible for notifying the judges, on the entry form, of pertinent points to be considered in the judging, not waiting until after the meet to complain. Contestants, however, are always anonymous, identified only by an entry number. This reduces the charge of 'voting for their friends' although obviously the judges will almost always recognize some of the models.

There are variations on this system in the Lower Mainland. IPMS-Richmond uses the rip as a judging systing in their Friday the Thirteenth Contests, but this is a very informal meet, primarily just for the chapter, with no entry fee and insignificant prizes. Some groups have made the actual judging process open to the contestants to watch, but we find that the numbers involved make this logistically impossible in our major meets. However, it is often done in the contests we judge for the local hobby stores.

There is no other point. The main value of a contest lies in the chance to see what other modelers are doing and compare your work with theirs. In this way you can identify your strong and weak points and act accordingly in the future. The contest proper — the awarding of prizes and declaration that this one is 'best' — is basically just a gimmick. You are the real judge. You can do your own judging and get the real benefits of a contest regardless how good or bad the quality of the official judging is.

Paul Cardwell, Jr.
Regional Director
Lower Mainland Region
IPMS-Canada

Having seen model contests from the points of view of a detached observer and as a contest judge, I can perhaps provide some insight of the problems faced by judges.

Modeling is an art form. Since it is a creative product, it is governed by an individual's characteristic tastes, styles, skills, etc. Judging a contest of such entries is tedious when done purely objectively, that is, unless a contest's sponsors and judges can organize entries to meet certain specific criteria of an objective nature from the outset. Of the fairly capable competitive modelers, some are more skilled in mechanical assembly of stock kits, while others are skilled at adapting kits into non-standard items and others are skilled in scratch building. How is a judgement to be objectively made: by the precision of the end product, by the various modelers' uniquely demonstrated skills, or how??? Without an entry population large enough to compartmentalize all these facets, a purely objective determination is difficult. Thus, in most contests, judgements are made by falling back upon some type of

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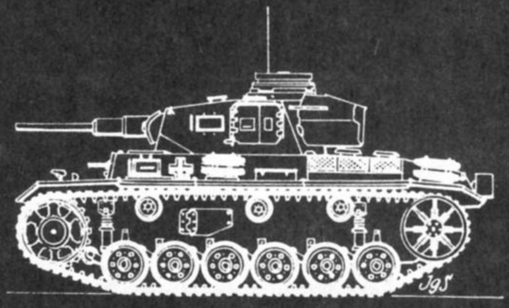
ARMOR MODELS IN REVIEW



Revell/Italaerei's **Panzer Ib.** Light Tank in 1:35th Scale.

Reviewed by 1LT Gordon H. Bennett

The **Panzer Ib.** by Revell/Italaerei is a model that has been long awaited by the armor modeler. Over the past few years, the boom in the model industry has given us just about every major German AFV of the World War II. period. One notable exception has been the **Panzer I.**

The **Panzer I.** was developed as a training vehicle by the **Reichswehr**. It served as the nucleus for the embryonic **Panzer** Divisions. The original vehicle, the **Panzer Ia.**, featured four road wheels on each side and a trailing idler wheel. Later, the more powerful **Panzer Ib.** was introduced; it had a slightly longer hull, an extra road wheel on each side, and the idler wheel was mounted higher on the hullside. The **Panzer Ib.** was the vehicle that spanned the entire pre-war and early-war period. It was used in the major propaganda parades of the early Hitler era, in the Spanish Civil War, in the invasions of Poland and France, and even in the wastes of Russia.

The **Panzer I.** was also produced as a command tank with a fixed superstructure and, later, was converted into two different self-propelled gun versions.

Revell/Italaerei has produced a model of the highest quality. Not only is it highly accurate and beautifully-detailed, but it has been molded in such a way that thin metal pieces (fenders, extra bolted-on plates, etc.) appear to be almost the correct thickness. Another nice feature of the kit is the way that detail pieces are attached. It is almost like building a scratchbuilt model. You build the basic box structure and then add all extra detailing such as visors, hatches, etc. This allows the builder to modify, add, or omit without trouble. In addition, it also gives better detail on the molded pieces. A slightly longer assembly time is required but this is a small price to pay for an accurate model.

The kit goes together beautifully. All the major components fit with a pleasing precision that is the hallmark of this company. The only real problem are that was encountered with the hull assembly was the fitting of the vent (part 24) directly behind the turret. This was a problem mainly because the part does not have enough area to allow the cement to grip.

The only other minor problem area is the placement of the extra equipment on the patterned fenders. All the other equipment (on the smooth surfaces) has faint lines showing the exact position; however, the fenders do not. By referring to the drawings and pictures, the correct placement can be determined, but with difficulty. One interesting piece of molding is for the heat shield over the muffler. This is a shape that does not mold too well in hard plastic, because of the extreme curvature and the number of holes. This problem was solved by molding it in the same soft plastic as the tracks. The result does not look too bad and it fits very nicely. This is a neat solution to a problem area.

The decal sheet is very comprehensive. It allows versions for the Spanish Civil War, Poland, France and North Africa. One interesting detail of the African version is a palm tree insignia with a backing of dark gray. This is to simulate the real practice of masking off insignia when changing the base color from gray to sand.

Two minor variations can be built, the main difference being the number of vents on the rear deck. The kit includes one full-length figure dressed in an overcoat. He wears a **Panzer** beret and even has a pipe in his mouth. It is refreshing to see some figures from this company that don't resemble mummys, as did their first offerings.

This is an excellent kit that fills a large gap in most model collections. Now, if only Revell/Italaerei would come out with a Russian T-26 Light Tank...

Tamiya's **2cm Flakvierling 38** Anti-aircraft Gun in 1:35th Scale.

Reviewed by James Steuard

As most readers are aware, the quadruple-mounted **2cm Flakvierling 38** played a most important role in the anti-aircraft defense of Germany in the years 1943-45. While not as well known as the '88', the **2cm Flakvierling** was responsible for downing most of the low altitude losses suffered by the U.S. Eighth and Ninth Air Forces. Each separate gun of the '**Vierling**' had a rate-of-fire of 700 to 800 rounds-per-minute, and the combined firepower of the four-barrelled system was intimidating to say the least. In fact, one burst from a '**Vierling**' (which usually emptied the 20-round magazines) was more than sufficient to destroy any aircraft target within range.

The Tamiya 1:35th scale model of the German **2cm Flakvierling 38** is a most pleseant surprise. Until now, all models of this famous weapons system portrayed mobile or self-propelled versions (the **Sd. Kfz. 7/1** halftrack, the **Flakpanzer IV. Wirbelwind**, etc.). The new Tamiya release depicts the fixed-position **2cm Flakvierling** and is complete with the **Sd. Anh. 52** trailer used to transport the multi-barrel weapon. The kit can be assembled either on or off the trailer, and can be used to depict a mirad of typical scenes. In the towed configuration, this weapon makes an impressive load behind a Horch heavy car (as suggested by Tamiya) or an Opel Blitz truck. The emplaced guns can depict any scene from a temporary position in North Africa to a permanent, sandbagged Westwall fortification.

The Tamiya **Flakvierling** kit is cleanly injection molded in a dark blue-gray plastic. The kit contains 115 parts, many of which are quite small and delicate. We suggest removing parts from the trees only as needed during assembly. Our sample kit (provided by Tamiya) contained a small amount of flash, but this was easily cleaned off using a sharp knife. The detail on parts is excellent; in fact, the amount of detailing is truely amazing in some areas. Assembly of the kit was fairly straightforth and not difficult, but we would strongly suggest going over each step of the instruction sheet carefully before cementing parts together. In our case, the Japanese instructions were not perfectly clear in a few areas; this should be remedied in the English-language instructions. No figures are provided in this kit; however, Tamiya does make several sets of figures which could be adapted to this kit. No decals are provided in the kit, but markings were minimal on the original weapon. Short of barrel 'victory' rings, very little would be actually required.

This is an excellent kit which accurately depicts the real weapons system. It **does** require some extra time in assembly, due to the small size of many of the parts. If careful in construction, the resulting model will surprise you by its detail and total realism. While there are some small areas which cry out for superdetailing (such as drilled-out gun barrels), all this takes is a little more time and patience. This is an excellent kit which is well worth the price.

ROCO Minitanks **Z-272 Infantry Combat Group, U.S., Bundeswehr and NATO**, in 1:87th Scale.

Reviewed by Thomas Levin

One of the major problems facing modelers in 1:87th (or HO) scale is obtaining infantry and armored vehicle crewmen for miniature dioramas and scenes. Most of us have found it necessary to haunt Model Railroad stores, buying expensive metal (and less expensive plastic) HO scale figures. Almost all of these require conversion and re-painting to adapt them to a 'military' role. A lot of help has now been provided us by the ROCO Minitanks firm with their new 'Infantry Combat Group' set of 1:87th scale miniature figures.

ROCO's new figure set includes twenty walking miniature figures. All figures consist of a common torso and legs, positioned so as to represent walking soldiers. All figures wear the American-type steel helmet which is now common issue in the U.S. and German armies, as well as in other NATO nations which received U.S. military aid. These figures are provided with clear plastic bases which may be cememted beneath the walking miniatures. This is not a bad solution to the problem of concealing bases for moveable figures. If you don't wish to use the bases (as I don't), simply cement the torso and legs combination into position on your diorama base, and use the nicely shaped clear plastic bases for other purposes. All of the figures are provided with optional-position arms, holding a variety of weapons and equipment. Since the arms are separate, their position can be varied from figure to figure, imparting quite a bit of individuality to figures within a diorama grouping. Weapons included in this set include MG42 (or MG1) light machine guns, G3 assault rifles (in a variety of positions), rocket launchers (bazookas), and explosive packets.

I am quite pleased with the assembly and appearance of these miniature figures, which rival the best of the HO metal miniatures. A little experimentation with a hot knife (or soldering iron) will prove that leg positions can be altered, and most of these figures can be easily adapted to either modern or WWII. American scenes. I think that most 1:87th scale modelers will welcome ROCO's new releases and hope (as I do) for future releases in this same area. How about a set of walking German infantry from the WWII. period? How about a set of German tank crewmen? The possibilities are almost endless, and the cost is most moderate.

AHM's **German 150mm Self-Propelled Howitzer 'Hummel'** in 1:72nd Scale

Reviewed by Graham Peck

One of the mainstays of German 'armored' artillery in the last two years of the Second World War was the **15cm 'Hummel'** self-propelled howitzer. This vehicle was composed of parts from both the **Panzer III.** and **Panzer IV.** tanks, resulting in a chassis which was both adequate and useful to mount the standard German divisional heavy howitzer. AHM's release of the ESCI (Italian) 1:72nd scale kit of the **Hummel** is an attractive and fairly-simple model, which makes-up into an excellent replica of the original vehicle, a late-war **Hummel** with straight front crew compartment.

As with other kits from this manufacturer, the **Hummel** model is cleanly molded in a blue-gray plastic (apparently designed to imitate the early-war German paint). The kit contains 79 parts, including two standing figures with separate arms. Assembly is easy, following the pictorial illustration sheet. Some clean-up is necessary to smooth and hide seam lines; this is an area which will take quite a bit of extra time, but the results are well worth the extra effort. Tracks are separately molded in a silver-colored, soft vinyl plastic, and these require some extra treatment (sewing or pins) to acquire a realistic track sag and appearance. A length of spare track is included in the kit. As with any small-scale kit, careful painting will do a lot to bring out details and hide problem areas (of which there are few). If I had to fault this kit, it would be the too-thick appearance of the body panels, especially where edges show. In all fairness, this is a common problem with small-scale models. The kit's decal sheet is quite comprehensive, providing four different schemes (two for Army and two for **Waffen-SS** vehicles). Printing of the decals is slightly off-register, but careful trimming with scissors will eliminate this.

This is a good kit, which I enjoyed putting together. The resulting model is fairly realistic and depicts an intriguing vehicle which had a lot of character.

Squadron's Combat Line **CL33 Russian Tank Officer, 1941-42,** Miniature Figure in 1:35th Scale...

Reviewed by James Steuard

Relying solely on kit-provided miniature figures to dress-up a model or a diorama is a false economy. Sure, it's cheaper, but it takes a lot of conversion skill and imagination to create believeable and realistic figures out of the ones provided in kit boxes. Until recently, however, if you worked exclusively in 1:35th scale, you were stuck with kit figures because nothing else was available. This situation has changed for the better with the new Squadron Combat Line of metal 1:35th scale miniature figures. Priced at $2.95 each, these figures are not cheap when compared to plastic figures (although they are quite inexpensive for metal figures). However, the Squadron figures can be recommended for their superior detail and for believable poses.

The subject of this review is a miniature of a Russian Tank Officer of the early war period, caught in the act of surrendering to the invading Germans. The figure wears the standard 'peasant blouse' field uniform with outside belt and high leather boots. Over this is an open overcoat with an upraised collar. On his head, the figure wears the standard Soviet padded tank helmet, which the figure is firmly grasping with upraised arms. Althogether, a thoroughly believable pose which would work-in admirably in an early war diorama (say, with a German tank and a destroyed Russian vehicle.)

This figure is nicely sculpted, although a fair amount of casting flash is evident. This is in fairly accessible places, and clean-up (with a fine file) was easily accomplished. The up-raised collar on the overcoat is a nice touch, adding casualness to a pose which is almost a cliche. The figure's face is cleanly molded and looks most accurate. The drape of the overcoat has been nicely handled, and cloth folds are correct in location and appearance, although a little work needs to be done at the open front to recess the coat opening. (This is difficult to achieve during casting.) The figure comes with a black-and-white coloring guide which spends more effort on history than telling about the uniform and insignia. I would recommend reference to other publications before you start painting.

This is an excellent figure which I can recommend to all 1:35th scale modelers. The choice of subject is good, the pose is thoroughly believable, and the painted figure looks excellent when posed next to an 'abandoned' Soviet vehicle.

Squadron's Combat Line **CL-30 German Assault Gun Officer** Miniature Figure in 1:35th Scale...

Reviewed by James Steuard

Virtually all of the popular 1:35th scale models (from Japan and Italy) are crewed by no more than one or two miniature crewmen. While one figure can be successfully used to show the size relationship of a vehicle to a man, it is very difficult to pose a model realistically without adding additional miniature figures. The problem is compounded when trying to find miniature figures which fit into a potential diorama scene. Squadron's Combat Line of 1:35th scale miniatures is designed to at least partially solve this problem...

Squadron's Combat Line includes a number of German figures, including the subject of this review, a German Assault

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MARKING BRITISH VEHICLES: A GUIDE FOR SERIOUS MODELERS... PART 4.

THE WHITE M3A1 SCOUT CAR

BY WILLIAM PLATZ

While not exactly a British vehicle, the American-built M3A1 Scout Car was widely used by his majesty's forces during the Second World War, and so becomes a valid subject for this article series. Originally produced as the new mount for the U.S. Cavalry (replacing the horse), by 1941 the M3A1 was itself being replaced in the U.S. Army by the M8 Armored Car and the M3 Halftrack series. Thus, a growing number of the orphaned Scout Cars became available for shipment overseas under Lend-Lease.

These M3A1 Scout Cars were quickly welcomed by the British, who, oddly enough, had never developed an armored personnel carrier of their own (unless you counted the Universal Carrier, with its limited abilities). Indeed, the Royal Army depended almost entirely on the soft-skinned 15-cwt. trucks and 3-ton lorries to transport both line and motor infantry units. Beginning in May 1941, the M3A1's began to appear at Regiment and Brigade Headquarters. At first, they were limited to command vehicles; however, as the supply of these robust vehicles increased, they were quickly pressed into service in a wide variety of roles — from artillery observation posts to armored ambulances.

Markings varied as widely as usage, and at first there was some confusion. Originally, the M3A1 was considered a Scout Car and was assigned War Department Census numbers prefixed with the letter 'F'. (These numbers included, but were not limited to, 'F-35396' through 'F-35499'.) Later, it was decided that a more accurate designation would be 'Truck, 15-cwt., 4x4, Armoured', and M3A1's received in 1943 and 1944 were given 'Z' prefix Census numbers (such as 'Z-4955330'). Both types of numbers remained in use until the end of the war. Furthermore, those vehicles assigned to ambulances carried 'A' prefixes instead of either of the above alternatives. Further markings depended on the type of unit to which the vehicle was assigned or attached.

I. ROYAL ARTILLERY

Part II. of this series (see *AFV-G2*, Volume 5, Number 10) provided the markings used on field artillery tractors and, for the most part, the same insignia can be used on the M3A1 as well. The formation signs and unit serial number complexes are identical to those used on the tractors; however, the Royal Artillery tactical sign marking (that red and blue square containing the white code letters which denoted the vehicle's function) must be changed. There were several different roles for the M3A1 in field artillery units, and of course, there was a different code for each one:

Battery Commander †	X
Battery Survey Officer †‡	Y
Troop Commanders †‡	RA, RB, RC, RD, RE, RF
Troop G.P.O.'s ‡	GA, GB, GC, GD, GE, GF

† - M3A1 or Carrier, AOP
‡ - M3A1 or 15-cwt. Truck with Radio

(Diorama suggestions: Tamiya Quad artillery tractor with 25-pounder and Peerless M3A1 Scout Car. Mark the tractor as shown in Part II. of this series, and then use the same insignia on the Scout Car, but with the Battery Commander's tactical sign. The latter can be trimmed from the top of the unit-serial-number decal in the Tamiya kit. Arrange the vehicles to depict a road-side conference, or a convoy situation.)

The use of the M3A1 Scout Car by Battery and Troop Commanders was most common with Infantry Division units, as Artillery Regiments in Armoured Divisions were provided with tanks for the purpose of command vehicles.

II. ROYAL ARMOURED CORPS

In tank units, M3A1's were assigned to the Regimental Headquarters, where they were used as Radio and Command vehicles, and by the intercommunications Troop. Markings for these vehicles followed the standard pattern: Formation Sign, Unit-Serial-Number, Tactical Marking, and War Department Census Number. In addition, a Bridge Marking was frequently displayed as well as a standard warning: 'Caution: Left-Hand Drive' on the rear of the body. The Formation Sign and Unit-Serial-Numbers used by Independent Tank Brigades in Northwest Europe (as of 6 June 1944) are shown in Table I. (on the overleaf page).

The Tactical Marking for Regimental Headquarters was a diamond, and this was painted in a specific color for each Regiment within the Tank Brigade. The color (also shown in Table I.) **must** correspond with the Unit-Serial-Number.

Armoured Car Regiments made much greater use of the M3A1 than did their tanker colleagues. Late in 1942, the M3A1 was added to Regiment and Squadron Headquarters units as a light armored command vehicle. Furthermore, in February of 1943, it was decided to add a Rifle Troop to each Armoured Car Squadron, and four M3A1's were allocated to transport this new unit. Later in some units, this Rifle Troop was split up among the Squadron's Armoured Car Troops, resulting in a Troop of one M3A1, two Daimler 'Dingo' Scout Cars, and two Daimler Armored Cars.

In the field, Armoured Car Regiments rarely displayed a full set of markings. The usual practice was to show the Allied Recognition Star and a Squadron Tactical Marking, with the Formation Sign and Unit-Serial-Number reserved for victory parades. (A more detailed listing of armored car markings will be provided in a future article covering the Daimler Scout Car.)

III. INFANTRY

By far the greatest number of M3A1's were assigned to Motor Infantry Battalions. Each Scout Car could carry an Infantry Section or Headquarters Group; and they were used extensively from 1943 until replaced by halftrack vehicles in late 1944 and early 1945. Many M3A1's continued in service until the end of the war.

Formation and Unit-Serial-Number insignia for the Motor and Lorried Infantry Battalions in Northwest Europe are found in Table II. Other markings included the Bridge Marking, the Census Number, and the 'Caution' sign described above, as well as local Tactical Signs. The latter varied from unit to unit, and were not always used. An example would be the 2nd Battalion, King's Royal Rifle Corps (KRRC) which used the same geometric company markings as employed by Tank Squadrons; and an additional example would be the letter codes used by the 1st Grenadier Guards (see illustrations)

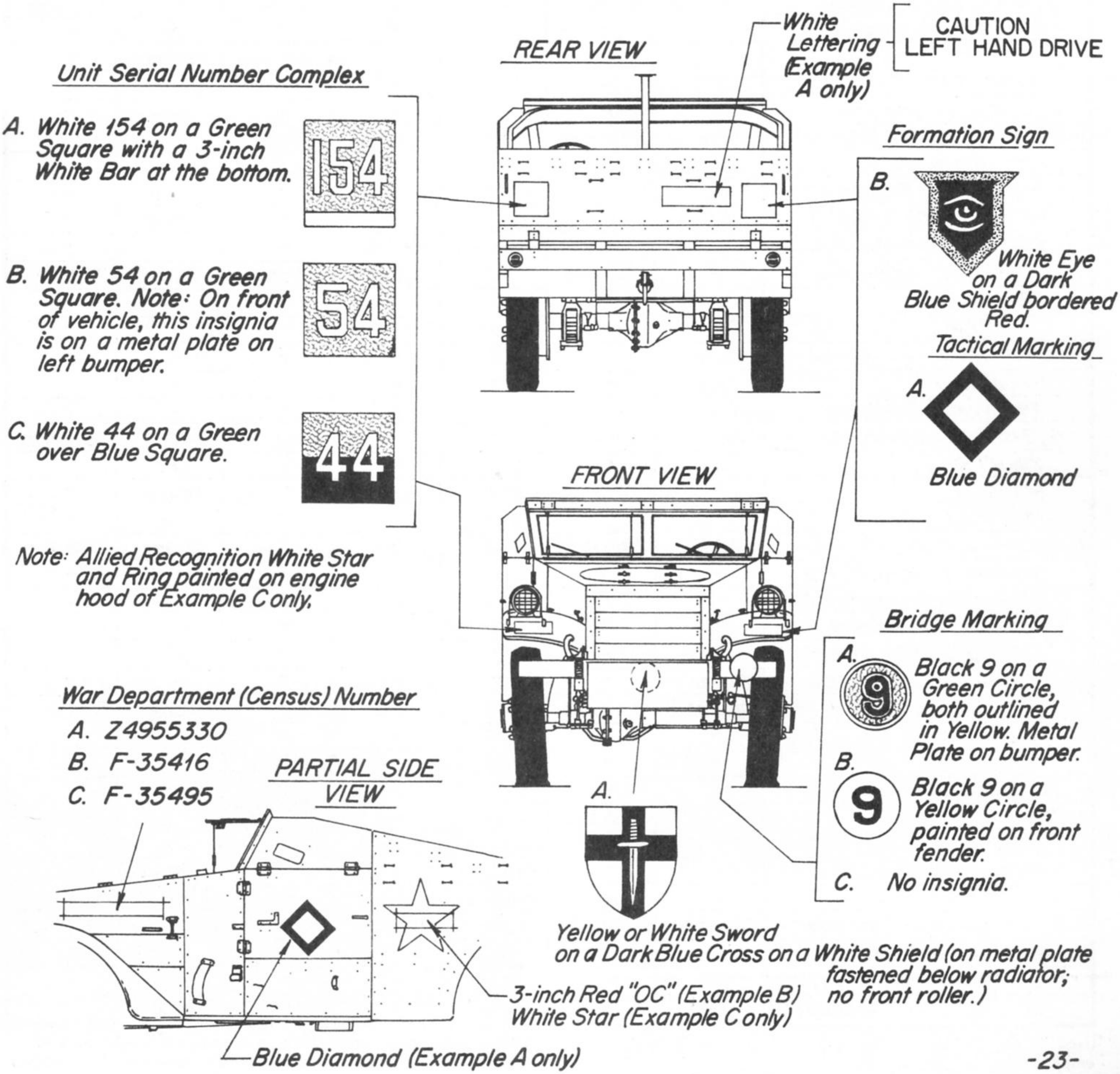
Lorried Infantry Battalions also used the M3A1's, but in fewer numbers than the motor infantry units. Here, they were employed as command vehicles, since soft-skinned transports were used to carry the riflemen. Regular line Infantry Battalions were also authorized two M3A1's each. One was

UNIT IDENTIFICATION TABLE

Letter	Vehicle and Unit Designation	Color & Camouflage	Date
A	Vehicle of Lt.Col. C.I.H. Dunbar, Commanding Officer, 3rd (Tank) Battalion, Scots Guards	Light & Dark Green	December 1943
B	Vehicle of Lt. Col. L.S. Starkey, Commanding Officer, 1st (Motor) Battalion, Grenadier Guards	Overall Dark Green	July 1944.
C	Vehicle assigned to the Rifle Troop, "A" Squadron, 11th Hussars	Overall Dark Green	1945

M3A1 Scout Car

Drawn by: J. Steuard



White Lettering (Example A only) — CAUTION LEFT HAND DRIVE

Unit Serial Number Complex

A. White 154 on a Green Square with a 3-inch White Bar at the bottom.

B. White 54 on a Green Square. Note: On front of vehicle, this insignia is on a metal plate on left bumper.

C. White 44 on a Green over Blue Square.

Note: Allied Recognition White Star and Ring painted on engine hood of Example C only.

Formation Sign

B. White Eye on a Dark Blue Shield bordered Red.

Tactical Marking

A. Blue Diamond

Bridge Marking

A. Black 9 on a Green Circle, both outlined in Yellow. Metal Plate on bumper.

B. Black 9 on a Yellow Circle, painted on front fender.

C. No insignia.

War Department (Census) Number

A. Z4955330

B. F-35416

C. F-35495

A. Yellow or White Sword on a Dark Blue Cross on a White Shield (on metal plate fastened below radiator; no front roller.)

3-inch Red "OC" (Example B) White Star (Example C only)

Blue Diamond (Example A only)

TABLE I. - BRITISH INDEPENDENT TANK UNITS

	Equipment Type	Formation Sign	Unit Serial Number	Arm-of-Service Color	Bar Location	Tactical Marking Color	Attached To:
H.Q., 6th Guards Tank Brigade	Churchill	6th Tank	151	Green	Bottom	—	2nd Army
4th Grenadier Guards	"	"	152	"	"	Red	"
4th Coldstream Guards	"	"	153	"	"	Yellow	"
3rd Scots Guards	"	"	154	"	"	Blue	"
H.Q., 8th Armoured Brigade	Sherman	8th Arm.	993	Red	None	—	30th Corps
4th/7th Dragoon Guards	DD	"	994	"	"	Red	"
24th Lancers	DD	"	995	"	"	Yellow	"
Nottinghamshire Yeomanry	DD	"	996	"	"	Blue	"
12th K.R.R.C. (Motor Bn.)	—	"	475	"	"	—	"
H.Q., 4th Armoured Brigade	Sherman	4th Arm.	121	Red	None	–	1st Corps
3rd County of London Yeom.	"	"	122	"	"	Red	"
The Greys	"	"	123	"	"	Yellow	"
44th R.T.R.	"	"	124	"	"	Blue	"
2nd K.R.R.C. (Motor Bn.)	—	"	125	"	"	—	"
H.Q., 27th Armoured Brigade	Sherman	27th Arm.	50	Red	None	—	3rd Inf.
13th/18th Hussars	DD	"	51	"	"	None	"
Staffordshire Yeomanry	DD	"	52	"	"	None	"
1st East Riding Yeomanry	DD	"	53	"	"	None	"
90th Armd. Bde. Co., R.A.S.C.	–	"	81	Red/Grn.	"	–	"
H.Q., 30th Armoured Brigade	–	79th Arm.	50	Red	None	None	79th Arm.
22nd Dragoons	Crab	"	51	"	"	"	"
4th R.T.R. 3-45	Crab	"	55	"	"	"	"
11th R.T.R. 12-44	Crab	"	54	"	"	"	"
1st Lothians	Crab	"	52	"	"	"	"
Westminster Dragoons	Crab	"	53	"	"	"	"
H.Q., 31st Armoured Brigade	Crocodile	79th Arm.	990	Green	Diagonal	—	79th Arm.
7th R.T.R.	"	"	991	"	"	Red	"
9th R.T.R.	"	"	992	"	"	Yellow	"
141st R.A.C.	"	"	993	"	"	Blue	"
H.Q., 1st Assault Brigade, R.E.	AVRE	79th Arm.	1232	Blue	?	None	79th Arm.
5th Assault Regiment, R.E.	"	"	1233	"	?	"	"
6th Assault Regiment, R.E.	"	"	1234	"	?	"	"
42nd Assault Regiment, R.E.	"	"	1235	"	?	"	"
149th Assault Park Sqdn.	—	"	1236	"	?	"	"
87th Assault Dozer Sqdn.	Dozer	"	819	"	?	"	"
H.Q., 33rd Armoured Brigade	Churchill	33rd Arm.	473	Red	?	None	30th Corps
144th R.A.C.	"	"	174	"	?	"	"
148th R.A.C.	"	"	175	"	?	"	"
1st Northants Yeomanry	"	"	176	"	?	"	"
H.Q., 34th Tank Brigade	Churchill	34th Tank	155	Green	Bottom	—	12th Corps
147th R.A.C.	"	"	156	"	"	Red	"
107th R.A.C.	"	"	157	"	"	Yellow	"
153rd R.A.C.	"	"	158	"	"	Blue	"
H.Q., 2nd Canadian Tank Bde.	Sherman	2.Cdn.Tk.	155	Green	Bottom	–	1.Cdn.Amy.
6th Tank Regt. (1st Hussars)	DD	"	156	"	"	Red	"
10th Tank Regt. (Ft.Garry Hrse)	DD	"	157	"	"	Yellow	"
27th Tank Regt. (Sherbrooke F.)	DD	"	158	"	"	Blue	"

used as the Battalion's 'Battle Office' and the second was employed as the 'Signal Office'.

The Peerless kit of the M3A1 provides one Canadian, one New Zealand, and three British markings schemes, as well as U.S. and Soviet insignia. Unfortunately, all three of the British

Continued on Page 46.

POLAND'S TANKETTES

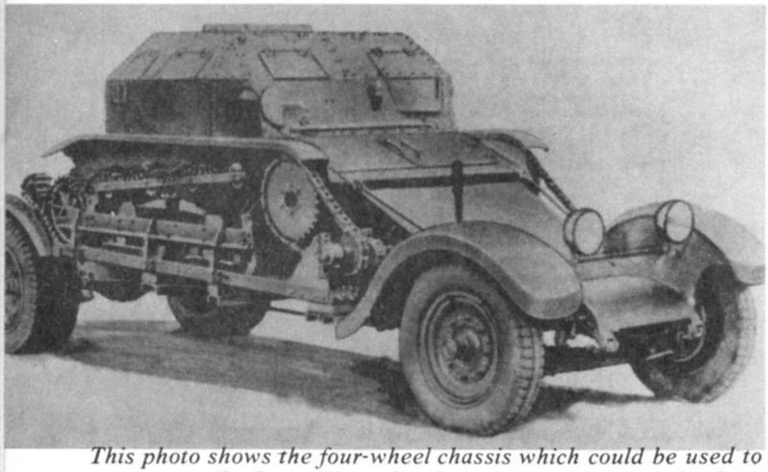
by Col. Robert J. Icks, Ret'd

Poland purchased two Carden-Loyd Mark VIb tankettes with headcovers from the Vickers-Armstrong Ltd. firm in England in 1930, together with a license to manufacture these vehicles in Poland. These tankettes were powered with Ford Model T engines and had the Ford planetary transmission. They were used in Poland to test various components, including the beefing-up of the suspension by adding upper track return rollers and a large leaf spring connecting the two road wheels on each side.

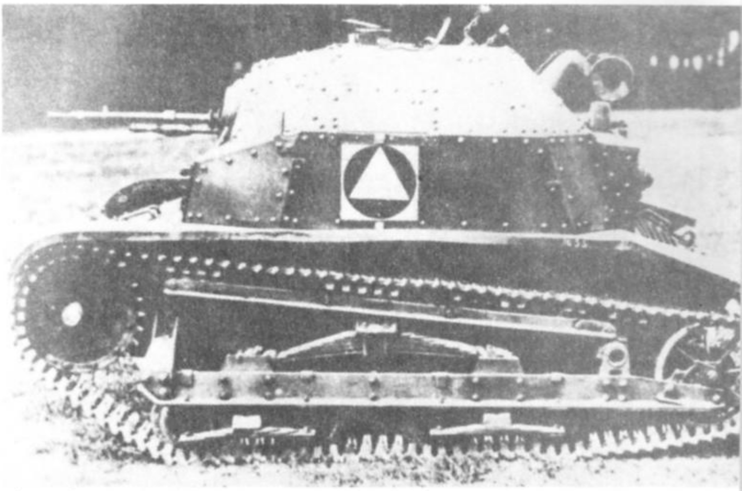
From 1932 to 1939 (when the start of the war stopped all developments), a number of tankette developments took place. The modified Carden-Loyd was followed by a very similar vehicle, designated the TK-1. This had an open top with the machine gun set into a semi-circular right hand mantlet. The engine was moved from the center to the rear of the vehicle, and a towing pintle was added. Later, a truncated pyramidal top armor cover was added to the tankette. This vehicle was followed by the TK-2; the major changes in this tankette being the substitution of a Ford Model A engine and a selective transmission. The gun mount was also modified. The TK-3 was almost identical to the TK-2 but had slightly wider tracks, hatches were added in the top armor bevels, and the muffler was mounted across the rear top armor bevel. An almost identical vehicle was the TK-F, which used a Polish-built Fiat engine instead of the Ford Model A. Some of the TK-F vehicles were sold to Estonia.

By 1926, these vehicles were augmented by the production of the TK-D, which had the basic TK-3 chassis with the top bevel armor removed, and a 3.7cm Bofors gun with a shield higher than the hull was substituted for the machine gun. This development led to the TK-W, a prototype turreted vehicle on the same chassis. The turret was mounted on the right side of the tank and a small driver's cupola was mounted on the left. The TK-W was then improved by extending the gun mount forward, thus providing more room inside the turret. The engine in this TK-W remained the Ford Model A as in the TK-2.

In 1928, the first real anti-tank prototype vehicle was constructed. The chassis was that of the TK-3, but the gun housing was moved forward and the mantlet was of the type that the Germans later would refer to as the *saukopf* (or sow's head). This vehicle had better hull steamlining, a development which was carried forward into the TK-S, which had a water-cooled machine gun with an armored jacket. The armor was more faceted in both the area of the gun housing and the rest of the hull. The production version of the TK-S carried an aircooled machine gun, and this tankette was fitted with the famous Grundlach tank periscope (which later became the British tank periscope which was standard during World War II.).



This photo shows the four-wheel chassis which could be used to transport a Tankette. Note the chain drive connecting the drive sprocket with the wheeled chassis. Photo Credit: John A. Loop

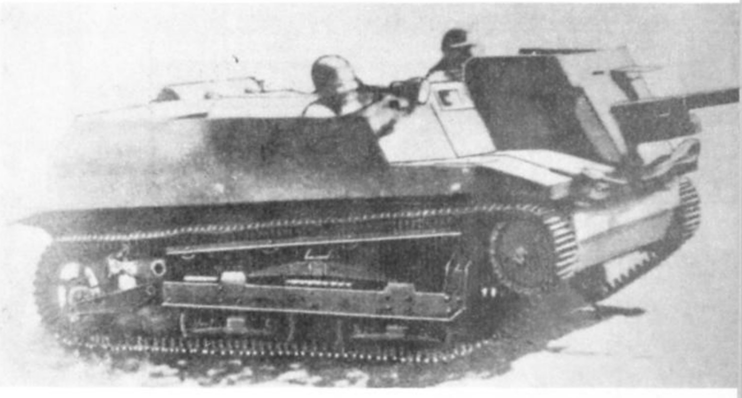


An often printed side-view of a Polish TKS Tankette; this clearly shows the external muffler and the overhead armor construction. Photo Credit: John A. Loop

The TK-S was also fitted with a 20mm gun, the foundation for which was laid in the experimental TK-3 with its 20mm gun, The TKS-B was a further refinement, but it appeared in prototype form only. The chassis for the TK-3 was also used for another self-propelled gun system, the TKS-D which mounted a 3.7 cm gun with a semi-circular shield. An artillery tractor, the C2P, with tarpaulin and bows was also built on the TK-3 chassis.

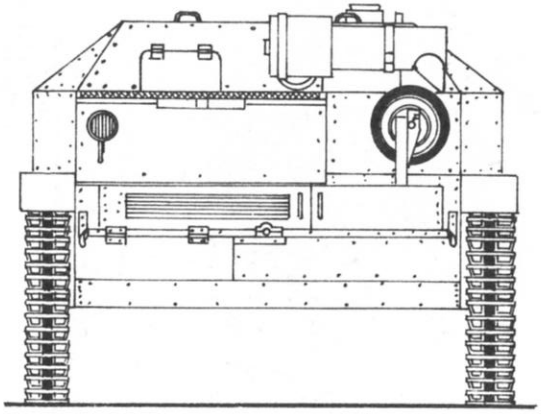
There also was a rather impractical wheel and track device built for the TK-3 tankette. This comprised a four-wheel chassis. After driving the tankette onto the wheeled chassis, the tankette tracks could be removed and chains connected between the drive sprockets and wheeled chassis. The wheeled chassis could be towed behind the tankette when the latter vehicle was on tracks. The main advantage of this system was to reduce track wear during normal administrative moves, but by the late 1930's, track wear was not the problem that it had been in earlier years.

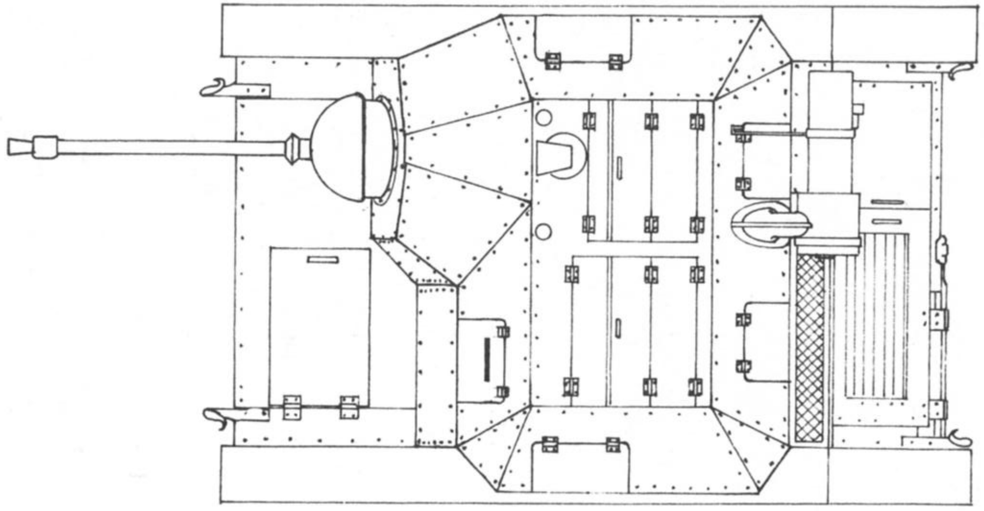
It cannot be said that Polish tankettes seriously effected armored vehicle design in the 1930's;however, these tankettes made-up a surprising amount of Polish armor strength when that nation went to war in September of 1939.



The above photo is one of the very few taken of the TKS-D self-propelled 3.7cm anti-tank gun. Note the low silhouette of this prototype vehicle, which appeared too close to the war for production to be undertaken. Photo Credit: John A. Loop

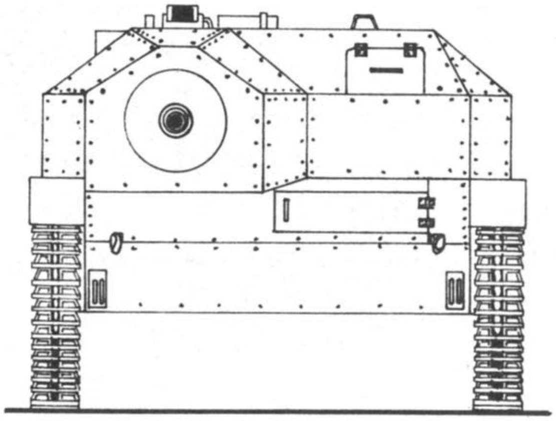
Drawings on the following three pages are provided in 1:25th scale, due to the small size of the original vehicle. Four-view drawings are provided for the Polish *TK-3* and *TKS* Tankettes, and a variety of side-views (in the same scale) are provided to show some of the variants on this vehicular chassis.

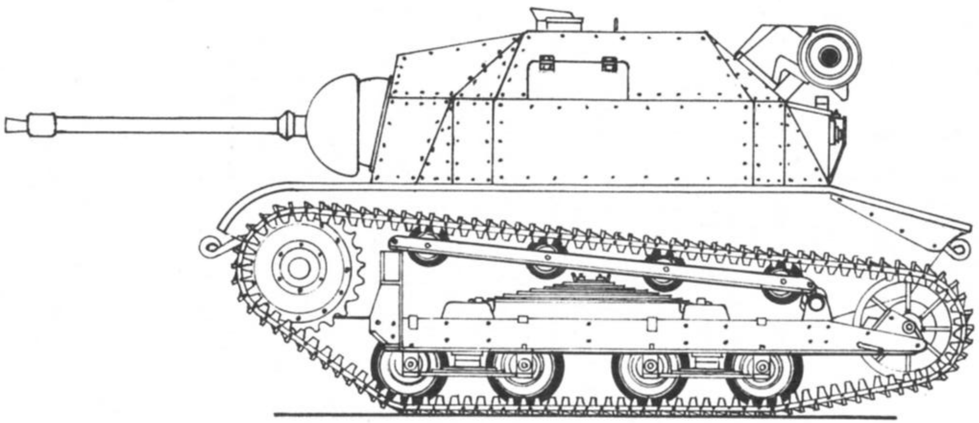


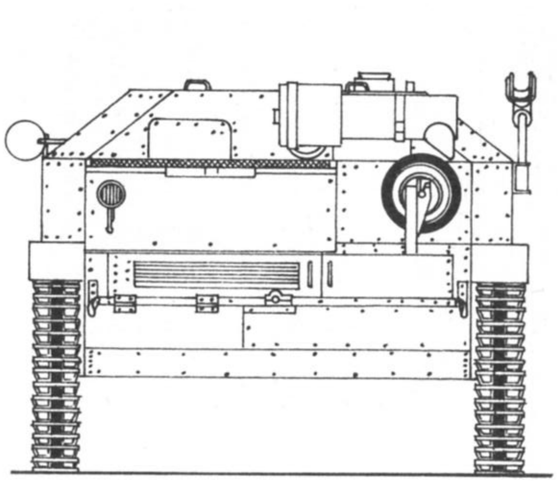


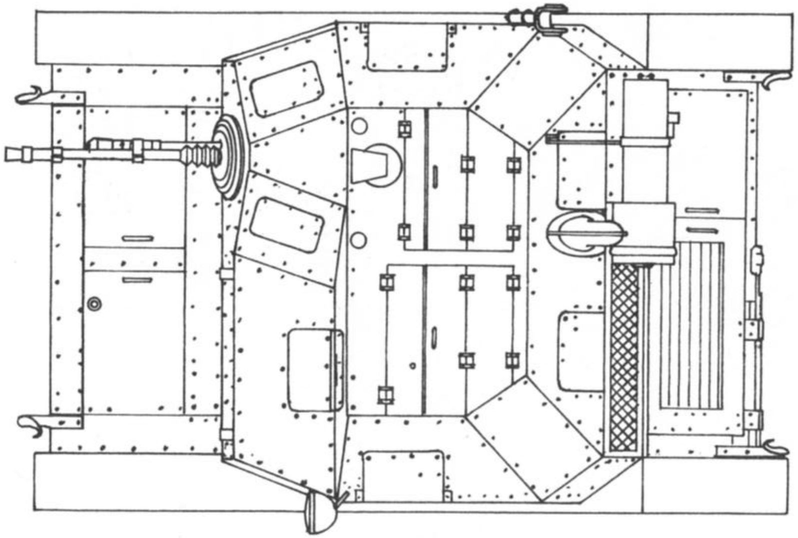
Poland's TK3 Tankette (Modified)

Drawn by S. R. Cobb in 1:25th Scale



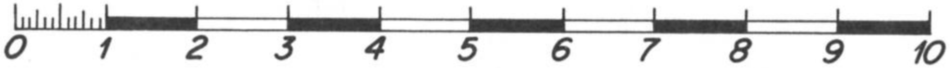


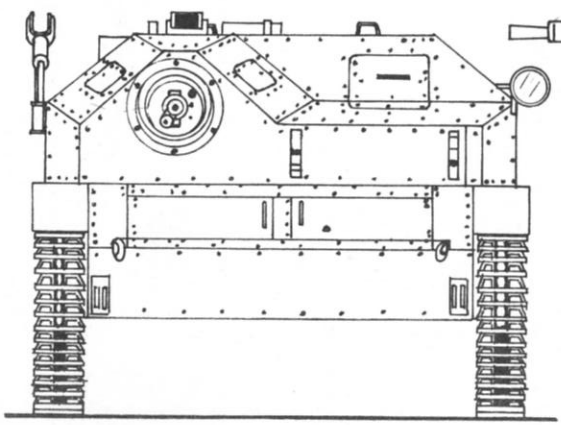


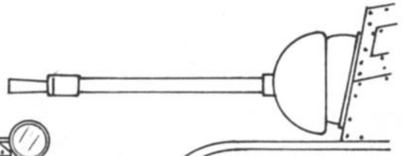


Poland's TKS Tankette

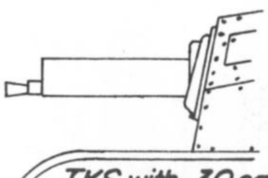
Drawn by S. R. Cobb in 1:25th Scale



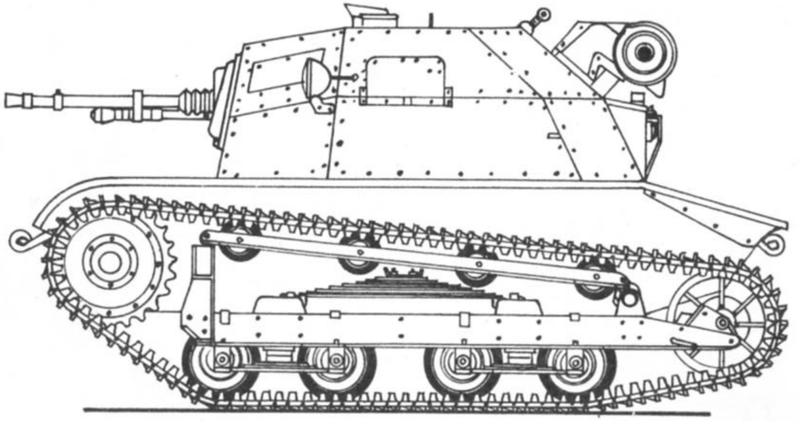




TKS with 20mm Cannon

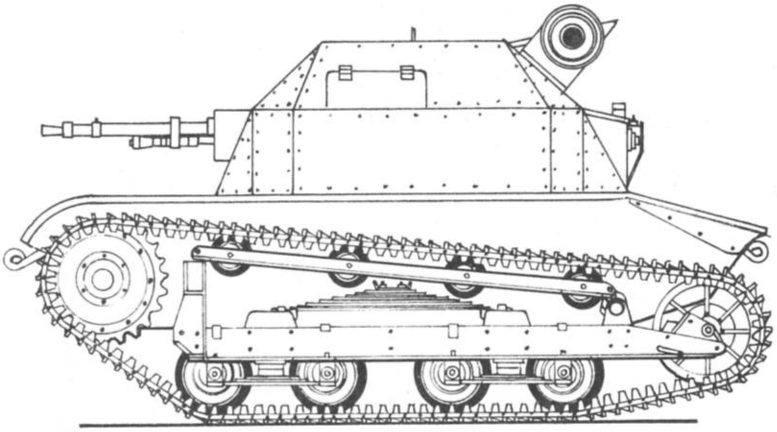


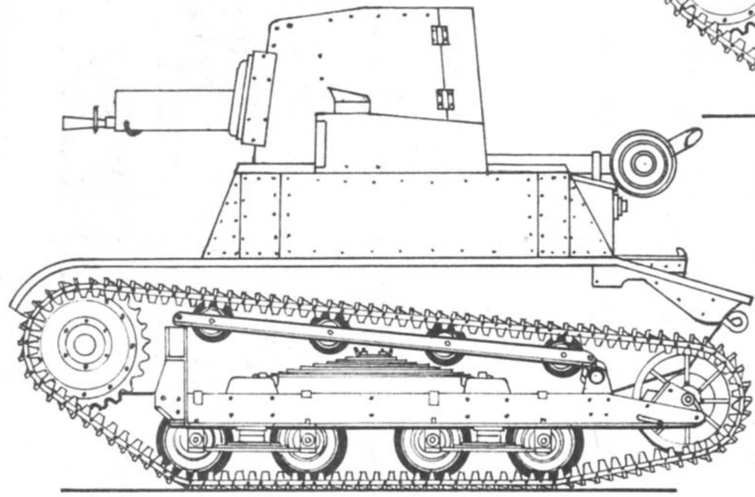
TKS with .30 cal. Machine Gun



Polish Tankette Variants

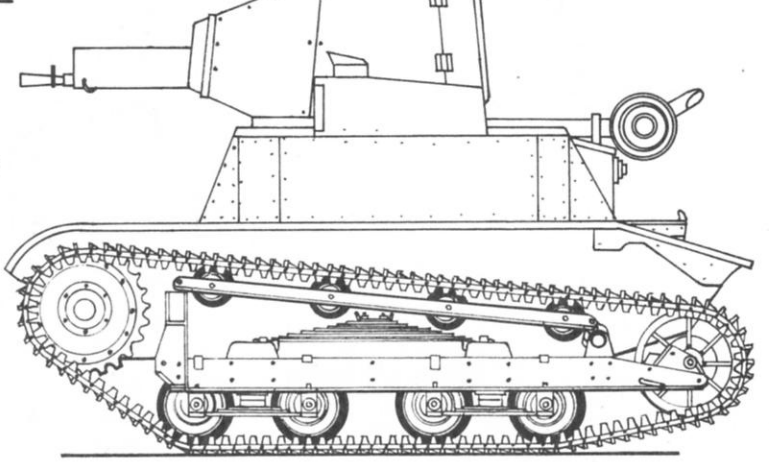
The *TK-3* Tankette was virtually the last development of the basic tankette. Note the hatches in the top beveled armor plate, and the transverse-mounted muffler to the rear of the fighting compartment. An almost identical vehicle was the Fiat-engined *TK-F*.

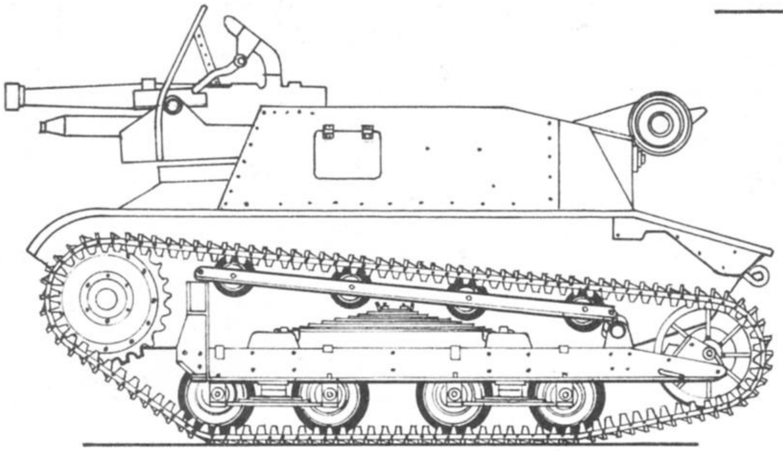




First model of the *TK-W* Light Tank which was directly derived from the *TK-S* Tankette. Note the box-like enclosed turret which mounted a single water-cooled machine gun. Although difficult to ascertain in a side view, the turret was offset to the right and there was a small driver's cupola on the left.

The second model of the *TK-W* Light Tank. Note the revised turret, which provided more room for the gunner. It appears that very few of these *TK-W* tanks were built, as they offered little if any improvements over the Tankette on which they were based.





The *TK-D* was constructed in 1936 in an effort to provide heavier anti-tank armament to mobile units. The upper beveled armor was removed, opening up the top of the vehicle, and the armament was replaced by a Bofors 3.7cm anti-tank gun, complete with flat armor shield.

THE BARON'S BOOKSHELF

with books for your bookshelf

Book Review: *The War of Atonement, October 1973*, by Major General Chaim Herzog (Little, Brown and Company, Boston, $10.00

Reviewed by Col. Robert J. Icks Rtd.

The Yom Kippur War of October 1973 in the Middle East continues to hold a fascination for military students. Early reports appeared to sound the death knell of both the tank and the airplane, but, like the famous Mark Twain comment concerning rumors of his death, they 'were greatly exaggerated'. Magazines carried what seemed to be definitive accounts at the time, but subsequent coverage in the military press clarified matters somewhat. Since then, there have been a few book purporting to tell the whole story of the war, but none even approaches the coverage in Chaim Herzog's book.

The background summary begins with the Six-Day War of May-June 1967. This is followed by the Egyptian attack of March 1968, which produced an immediate Israeli large-scale commando attack that cooled matters off for a few months. Then in November 1968, the Egyptians began the so-called War of Attrition that continued sporadically until August 1970 when peace efforts by the United States and the USSR finally took effect. Two results occurred. The Israelis began construction of the Bar-Lev line of fortifications along the east bank of the Suez Canal. The Egyptians secretly moved their missile system forward until it became a concentric series of overlapping missile ranges down to and including hand-held infantry missiles.

Herzog's narrative covers the political events on both sides against the world context of U.S.-Soviet detente in May 1972. He covers with frankness the failure of Israeli Intelligence to interpret what was plainly visible; Israeli Cabinet infighting; the conflict in seniority of Israeli generals who became powerful in civilian life and who, as reserve officers, were to outrank active officers when hostilities began; the over-confidence of the Israeli Army; the growth in the belief that armor could operate alone and the failure to improve infantry abilities by retaining the obsolescent halftracks instead of developing a new infantry carrier; a belief that Israeli air could easily take out the Egyptian missile system as well as support Israeli armor; and the post-war Israeli Commission of Inquiry.

All this is covered in summary. The bulk of the book is devoted to a detailed description of military operations on both the Syrian and the Suez fronts. The maps are fairly good but there could well have been more of them and those provided should have carried all the place names mentioned in the text. Even so, the details are the most complete this reviewer has seen.

The war did not go according to Israeli plans either on the ground or in the air. The wide front Egyptian advance across the canal spread Israeli air so thin that Egyptian missiles could not be taken out. Soviet-built bridges were so numerous and flexible that even those destroyed by air were quickly replaced or repaired. Spreading of air power also limited ground support. Contemplated supply by air likewise was a failure. A railroad built by the Egyptans in the Sinai was torn up after the Six-Day War and, although roads were built, truck supply was inadequate. The Israeli mobilization plan was thrown into confusion by the course of events with units thrown into combat piecemeal as they arrived at the fronts.

The Arabs, on the other hand, had studied every phase of their previous failures and Israeli successes. The Intelligence system set up by the Soviets was well informed and capable of deceiving the Israelis as to the Arab intentions. In combat, the Arabs used the Soviet set-piece tactics of continuous waves of armor and infantry. These sometimes backfired into confusion when stubborn Israeli resistance smashed leading waves and the others kept coming to become badly disorganized and vulnerable.

Both sides now are full re-equipped but there has been a change in atmosphere. Missiles have modified but have not changed the high values placed on air and armor by both sides. The Arabs regained national honor and the Israeli learned or relearned some valuable lessons. Thus there seems less likelihood of another war, at least for the present.

The book is written from the Israeli point of view but appears to be quite objective even to pointing out the attitude of the western European nations whose demonstrated fear of the Soviet Union during the war causes some misgiving as to how stiff their resistance would be in the event of a Soviet attack in Europe.

Book Review: *USAFFE*, by Major Alvin C. Poweleit, MD, USA (Privately printed, 1975, Cincinatti, Ohio [Kidd's Bookstore, Cincinatti, OH], 182pp, $6.50)

Reviewed by Charles Bogart

This book really consists of four stories in one. Based on a diary kept by Major Poweleit from October 1941 until October 1945, this book tells of the author's personal experiences. The first story is about the 192nd and 194th Tank Battalions in the Philippines during 1941-1942. Dr. Poweleit served as a Medical Officer for the Tank Battalions. Secondly, it is the story of captivity in Japanese POW Camps in the Philippines and on Formosa. Thirdly, it is the story of the conviction of Japanese officers for their cruelty to POW's, and fourthly, it provides excerpts from '*Bataan Uncensored*', the long-out-of-print book which told the story of the Tank Battalions in the defense of the Philippines.

Major Poweleit's book deals very little with tank operations, but it does give a good insight into the men's thinking and reaction to combat, medical problems (including VD), and command structure. Basically, it tells of a little-used unit, which had no clear plans, in a situation of confused communications.

According to the author, cosmoline was not cleared from the light tank guns until December 5, 1941, General Wainwright had little idea of the limitations of tanks or their proper use, and that tanks were often ordered into battle for no other purpose than to provide moral support to the infantrymen.

For those interested in the Philippines and the defense of Bataan in 1941-42, this book is an excellent and welcomed addition to anyone's library.

Continued on Page 49

THE GERMAN HEAVY ARMORED CAR COMPANY

When the 1944 pattern of *Panzer-Aufklärungs-Abteilung* (or Armored Reconnaissance Battalion) was created, the two *Panzerspäh-Kompanien* (Armored Car Companies) of the earlier 1943 organization were deleted, being replaced by a single *Panzerspäh-Kompanie.* While the 1943 type company was equipped with both light (4 wheel) and heavy (8 wheel) armored cars, this new 1944 style Armored Car Company could be any one of four different types of units, depending upon the locale or the situation under which the parent Reconnaissance Battalion was organized. Any one of the following units could be found in the *Panzer-Aufklärungs-Abteilung ;*

Panzerspäh-Kompanie Typ 'A'	(*Sd. Kfz. 234/2 'Pumas'*)
Panzerspäh-Kompanie Typ 'B'	(*Full Tracked Recon. Vehicles*)
Panzerspäh-Kompanie Typ 'C'	(*Sd. Kfz. 250/9* Halftracks)
Panzerspäh-Kompanie Typ 'D'	(*Sd. Kfz. 234/1* armored cars)

(The *Panzerspäh-Kompanie Typ 'E'* was a 1945-period unit which was designed to replace all of the above companies in the 1945 patter of *Panzer-Aufklärungs-Abteilung.*)

The 'A' and 'B' types of organizations have been covered in preceding parts of this series. This article will concentrate on the *Panzerspäh-Kompanie Typ 'D'.*

The *Panzerspäh-Kompanie 'D'* was organized under *Kriegsstärknachweisung (KStN) 1162d.* The example of this company pictured on the following pages is dated 1 March 1944, prior to the introduction of the *'frei Gliederung'* concept, which was created by the *Inspekteur de Panzertruppen* in late 1943. It, therefore, still had the normal Administrative & Supply, Maintenance, and Company Trains Sections. Under the later organization, these sections were dropped and their functions transferred to the Battalion-level *Versorgungs-Kompanie* (or Supply Company). In this later re-organization, the Headquarters Section of the Armored Car Company was also slightly altered.

The *Panzerspäh-Kompanie Typ 'D'* (as shown opposite) was organized with 3 officers, 52 non-commissioned officers, and 79 enlisted men. The Company had the following sub-units:

Headquarters Section
First Armored Car Platoon
Second Armored Car Platoon
Third Armored Car Platoon
Fourth Heavy Weapons Platoon
Maintenance Section
Administrative & Supply Section
Company Trains

The company's Headquarters Section was created to control the operations of the company. It consisted of two elements; the Command Group and the Messenger Group. The Command Group was under the command of the Company Commander, and consisted of a single *Sd. Kfz. 234/1* armored car (armed with one 2cm cannon and one *MG34* light machine gun) and one *Volkswagen Kübelwagen* (or other similar light car). The *Kübelwagen* was used as an administrative vehicle, while the armored car was used by the Company Commander to lead the Company in combat, as well as for defense of the Company Headquarters. The Messenger Group consisted of four enlisted Messengers, who rode two *Kettenkrad* tracked motorcycles and two light 350cc *Einheits*-motorcycles. In combat, these Messengers provided a secure communications link (during, for example, periods of radio silence) between the Command Group and the four Armored Car Platoons of the Company.

The First, Second and Third Armored Car Platoons were organized identically, with the exception of the Platoon Leader's rank. The First Platoon was commanded by an officer, usually a *Leutnant* (2nd Lieutenant) who also served as the Company's Executive Officer (or Second-in-Command). The other two Armored Car Platoons were commanded by senior non-commissioned officers; a situation which was brought on by the somewhat critical shortage of junior officers in the German *Wehrmacht* during the latter half of the war.

Each of the Company's three Armored Car Platoons was organized with three, two-vehicle Armored Car Sections. In addition to overall command of the Platoon, the Platoon Leader also functioned as the commander of the First Armored Car Section, and remaining two Sections were commanded by non-commissioned officers. The Platoon's six armored cars were of the *Sd. Kfz. 234/1* heavy type. The Section's two vehicles were employed as a team; the usual method of operation consisted of one car observing and covering the forward (or rearward) movement of the second car. Each of the vehicles was equipped with medium range radio sets, which easily permitted communications with the parent Company Headquarters, the parent Battalion Headquarters, or even higher combat elements of the division. The weapons of these armored cars were deemed sufficient to provide reconnaissance-by-fire, and also to extricate the armored car (or Section) from any difficulty it may have gotten into. Readers should remember that reconnaissance vehicles were not expected to enter combat against heavier and better armed enemy vehicles; therefore, their armor was only sufficient to withstand enemy small arms fire, and their armament was only heavy enough to suppress enemy infantry weapons while the vehicles maneuvered or withdrew from action. Each vehicle was also provided with smoke grenade launchers which could assist in screening withdrawals when enemy fire became too heavy.

The Armored Car Platoon was the basic combat sub-unit of the Armored Car Company. In operation, each of the three Platoons was capable of independent operation and could be temporarily attached to major elements of the *Panzer-Division.* Keeping in touch with the Company Headquarters and the Reconnaissance Battalion by radio, the Platoons could provide route or area reconnaissance for the supported unit, splitting into two-vehicle Sections as required by the type of reconnaissance that they were ordered to perform. This type of unit organization and this concept of operations provided a great deal of flexibility (which became the hallmark of German reconnaissance), as well as a depth of support which was copied in the post-war organization of many of the armies of the world.

The fire-support element of the Armored Car Company was its Fourth Heavy Weapons Platoon. Commanded by a *Leutnant* (2nd Lieutenant), this Platoon was equipped with six *Sd. Kfz. 234/3* heavy 8-wheel armored cars, each armed with one 7.5cm short-barreled cannon and one *MG34* light machine gun. The Platoon was organized into two, three-vehicle Sections, with the First Section under the command of the Platoon Leader, and the Second Section being commanded by the Platoon Sergeat. With this type of organization, each of the two Sections was designed for independent support, either of indirect or direct fire type. In one type of operation, one of the Sections could be attached to each of two Armored Car Platoons; and the three-vehicle Section could be further split, with one *Sd. Kfz. 234/3* being attached to each Armored Car Section. In this type of role, the principal effect was to provide a heavy, howitzer-like weapon for direct fire support of the Armored Car Section. In a second type of operation, each of the three-vehicle Heavy Sections could be kept intact where it could fire indirect missions as a battery of guns. This type of fire support could provide valuable reinforcement of a Company or a Platoon reconnaissance mission, firing high explosive or smoke projectiles upon call of the supported unit, and otherwise acting as self-propelled artillery. This type of flexibility assured active support where it was needed.

The Maintenance Section of the Armored Car Company was organized to provide vehicular support of the Company, and it consisted of four vehicles. A *Sd. Kfz. 7* un-armored halftrack was assigned to the Section to assist in recovery of bogged-down or broken-down reconnaissance vehicles. The Section's personnel were transported in one 1½-ton truck, while two additional 1½-ton trucks were used to transport the Section's spare parts and repair equipment. Although small in numbers, the services of this Section were absolutely essential to insure continued operation of the combat elements of the Armored Car Company.

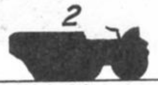
The Administrative & Supply Section, as its name implies, was organized to provide the mundane (but essential) services which supported the Company. It was divided into a number of smaller groups, organized around the support function which they provided. For example, a small Mess team (transported in one 1½-ton truck) provided food service as required. Fuel and ammunition re-supply requirements were handled by two other

Continued on Page 48

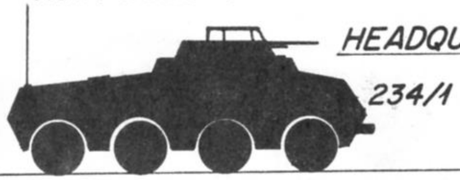
PANZERSPÄH-KOMPANIE „D“

KStN 1162d of 1 March 1944

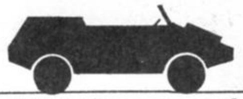
HEADQUARTERS SECTION



1 EM Messenger (R)



1 NCO Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



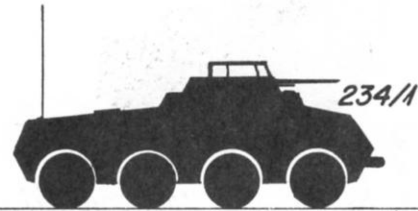
1 OFF Company Commander (P)
1 NCO Section Leader (MP)
1 NCO Medical Sgt. (P)
1 EM Driver (R)

1 EM Messenger (R)

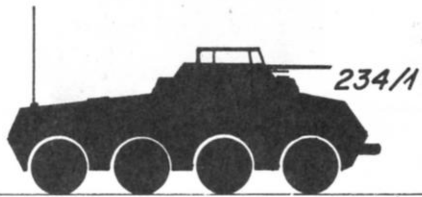
1 EM Messenger (R)

1 EM Messenger (R)

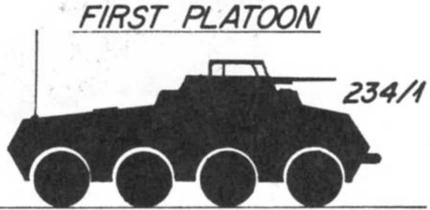
FIRST PLATOON



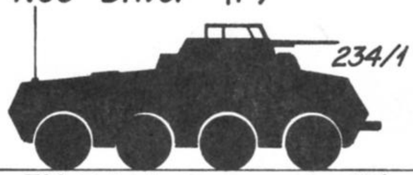
1 NCO 2nd Section Leader (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



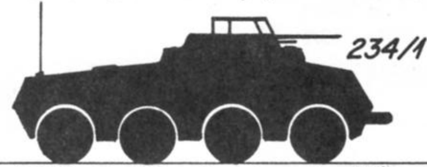
1 NCO Vehicle Commander (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



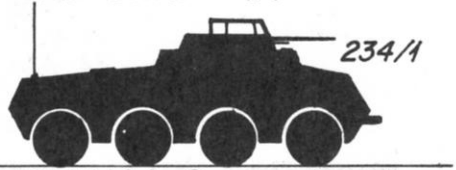
1 OFF Platoon Leader (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



1 EM Vehicle Commander (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



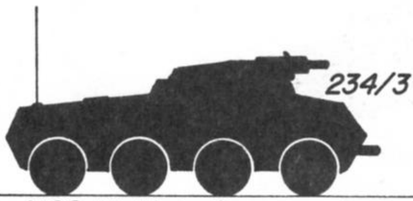
1 NCO 3rd Section Leader (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



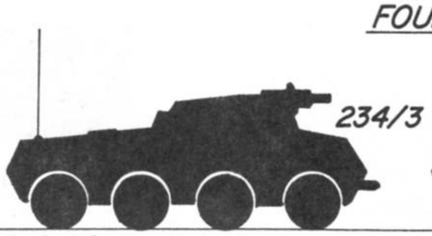
1 EM Vehicle Commander (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)

SECOND PLATOON and THIRD PLATOON are identical to the FIRST PLATOON except that the Platoon Leaders are Senior NCO's.

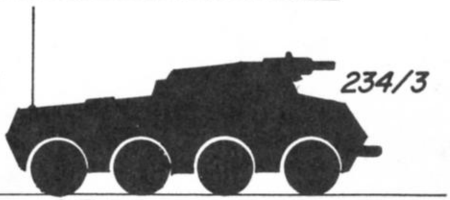
FOURTH (HEAVY) PLATOON



1 NCO Vehicle Commander (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



1 NCO Vehicle Commander (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)



1 OFF Platoon Leader (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)

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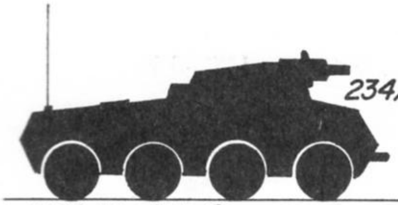
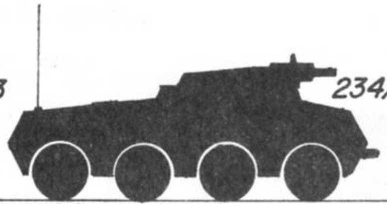
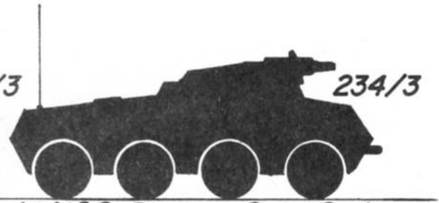


1 NCO Vehicle Commander (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)

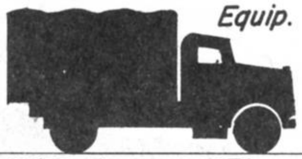


1 NCO Vehicle Commander (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)

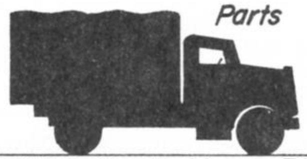


1 NCO Platoon Sgt.-2nd Section Leader (P)
1 EM Radioman-Driver (P)
1 EM Gunner (P)
1 NCO Driver (P)

MAINTENANCE SECTION



1 NCO Foreman (R)
1 EM Driver (R)



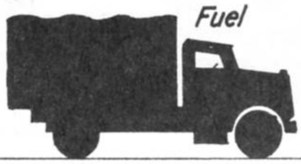
1 NCO Radio Mech. (R)
1 EM Driver (R)

1 NCO Section Leader (P)
4 EM Mechanics (R)
1 EM Radio Mechanic (R)
1 EM Mechanic-Driver (R)

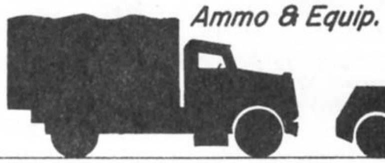
1 NCO Foreman (R)
1 EM Driver (R)

ADMINISTRATION & SUPPLY SECTION

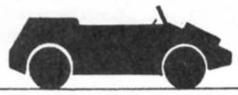
1 NCO Chief Cook (R)
1 EM Weapons Assistant (R)
1 EM Driver (R)



1 EM Clerk (R)
1 EM Driver (R)

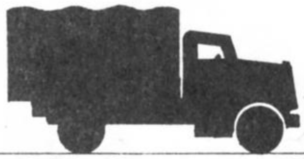


1 NCO Equip. Sgt. (P)
1 EM Weapons Assistant (R)
1 EM Driver (R)

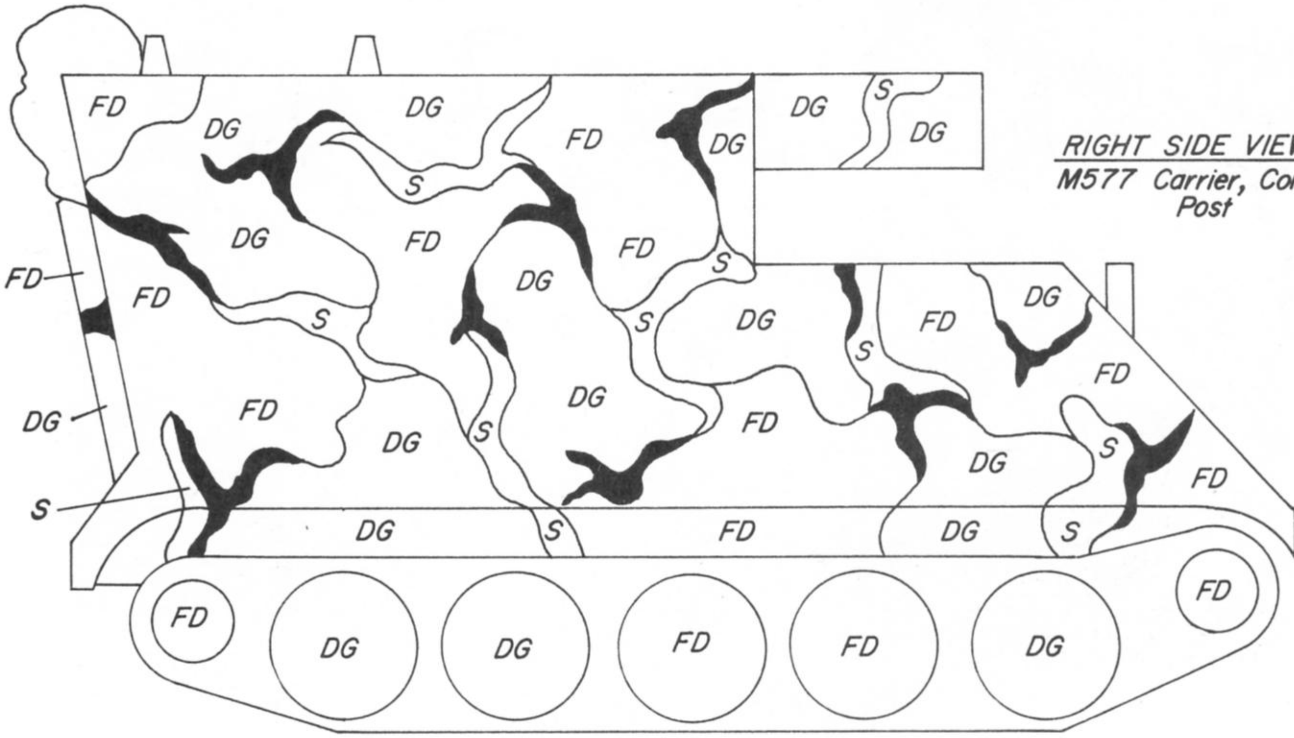


1 NCO First Sgt. (MP)
1 NCO Weapons Sgt. (P)
1 EM Driver (R)

COMPANY TRAINS



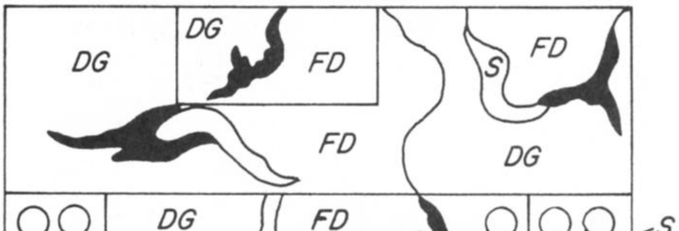
1 NCO Accountant (R)
1 EM Shoemaker (R)
1 EM Tailor (R)
1 EM Driver (R)



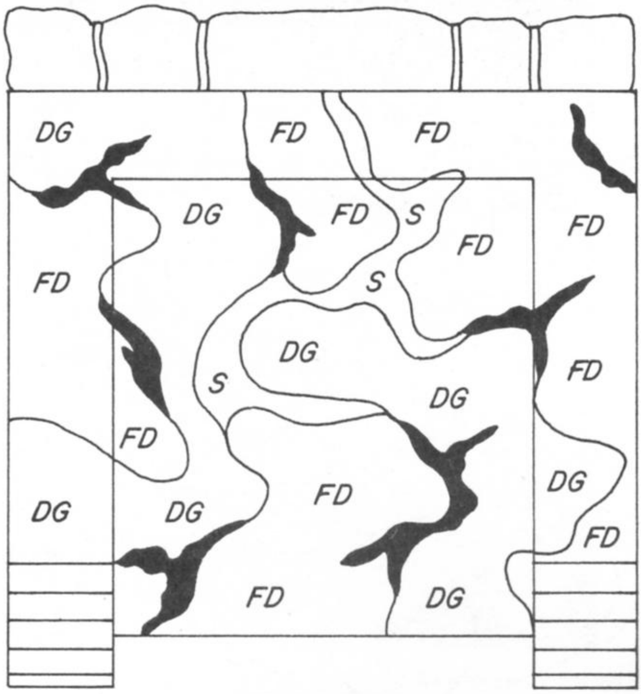
RIGHT SIDE VIEW
M577 Carrier, Command Post

FIVE-VIEW CAMOUFLAGE PATTERNS:
M-577 CARRIER, COMMAND POST

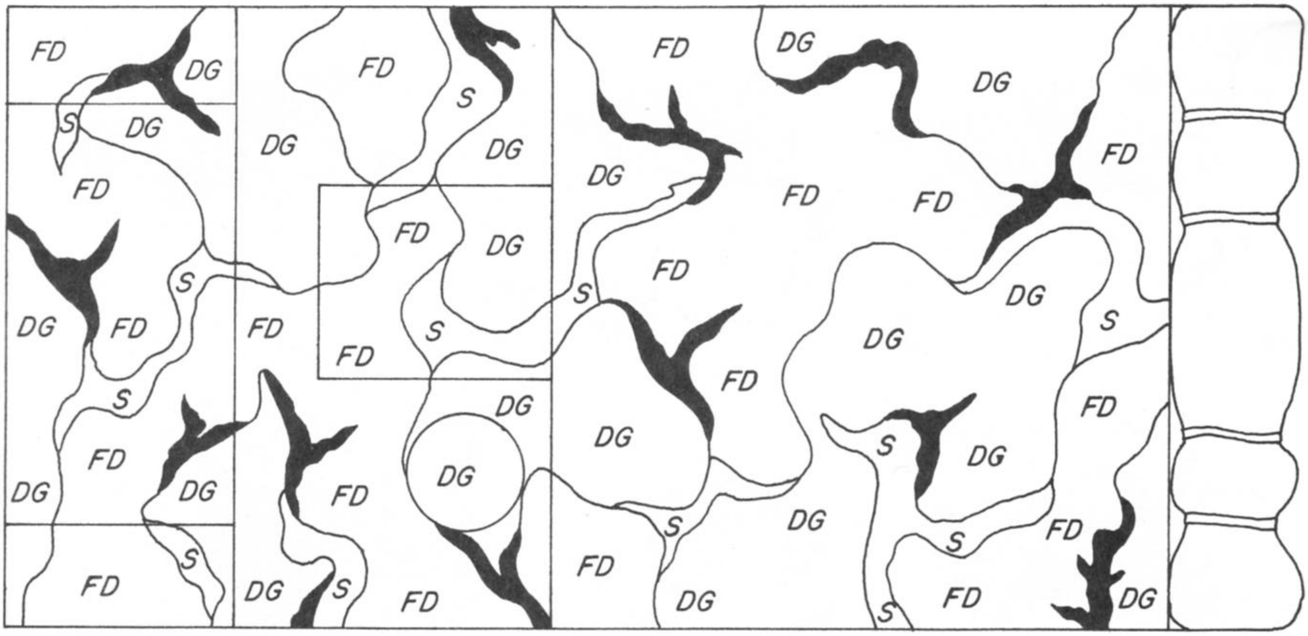
0 1 2 3 4 5
Scale in Feet



FRONT VIEW
M577 CP Carrier



REAR VIEW
M577 CP Carrier



TOP VIEW – M577 CP Carrier

FIVE-VIEW CAMOUFLAGE PATTERN:

M-577 CARRIER, COMMAND POST

0 1 2 3 4 5 Scale in Feet

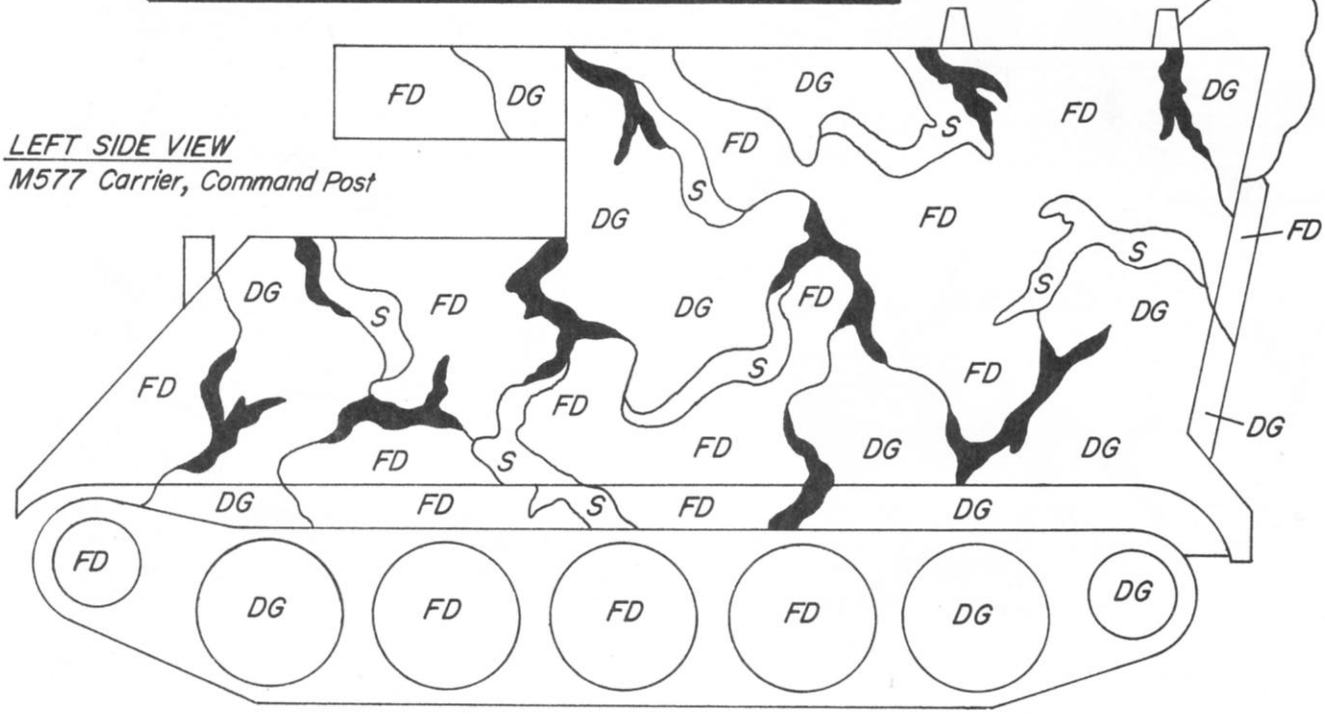
COLOR CODE

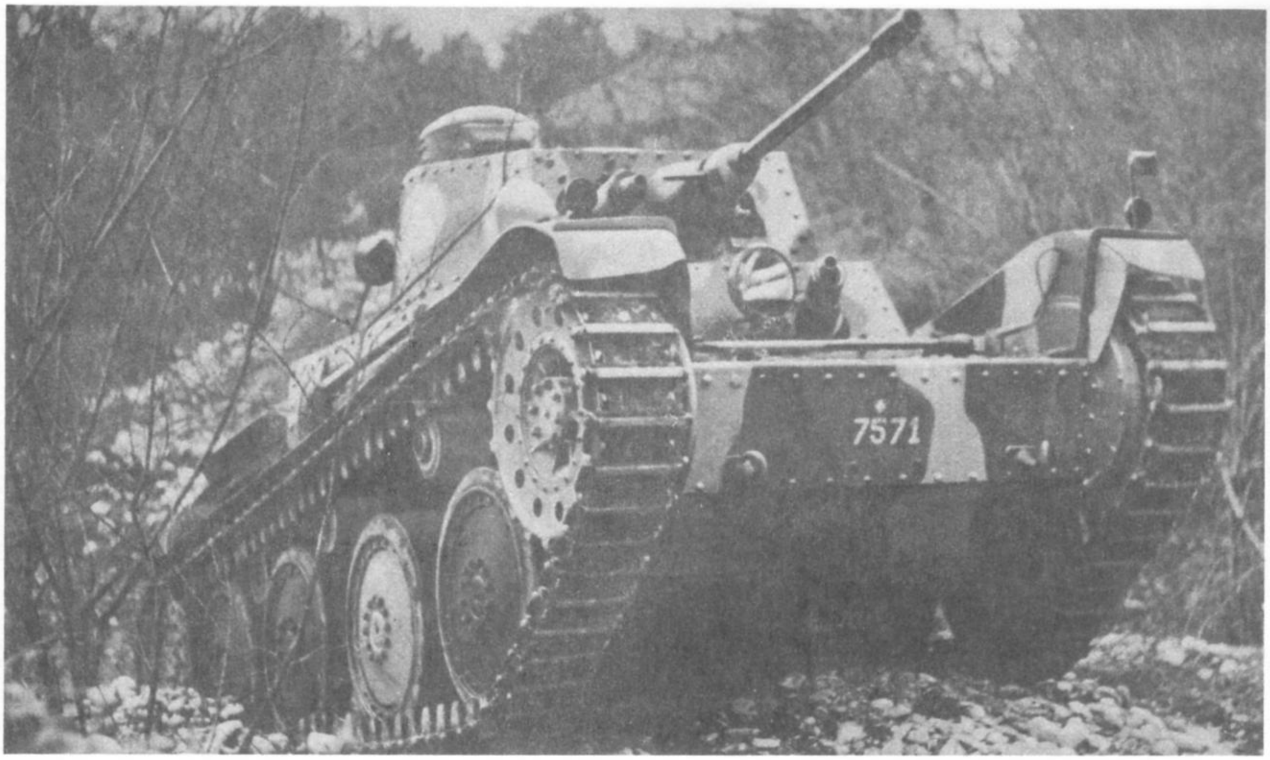
FD = FIELD DRAB 30118 , S = SAND 30277

DG = DARK GREEN 34079, ● = BLACK 37038

LEFT SIDE VIEW

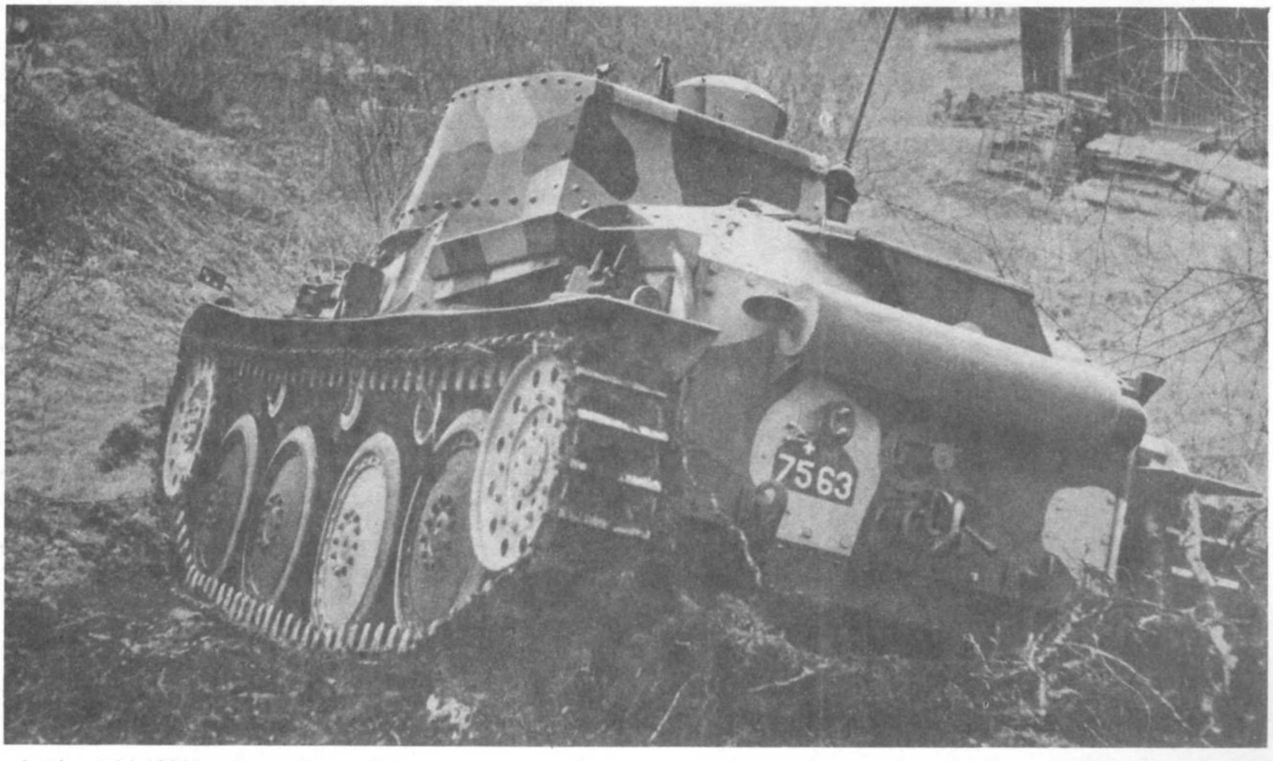
M577 Carrier, Command Post





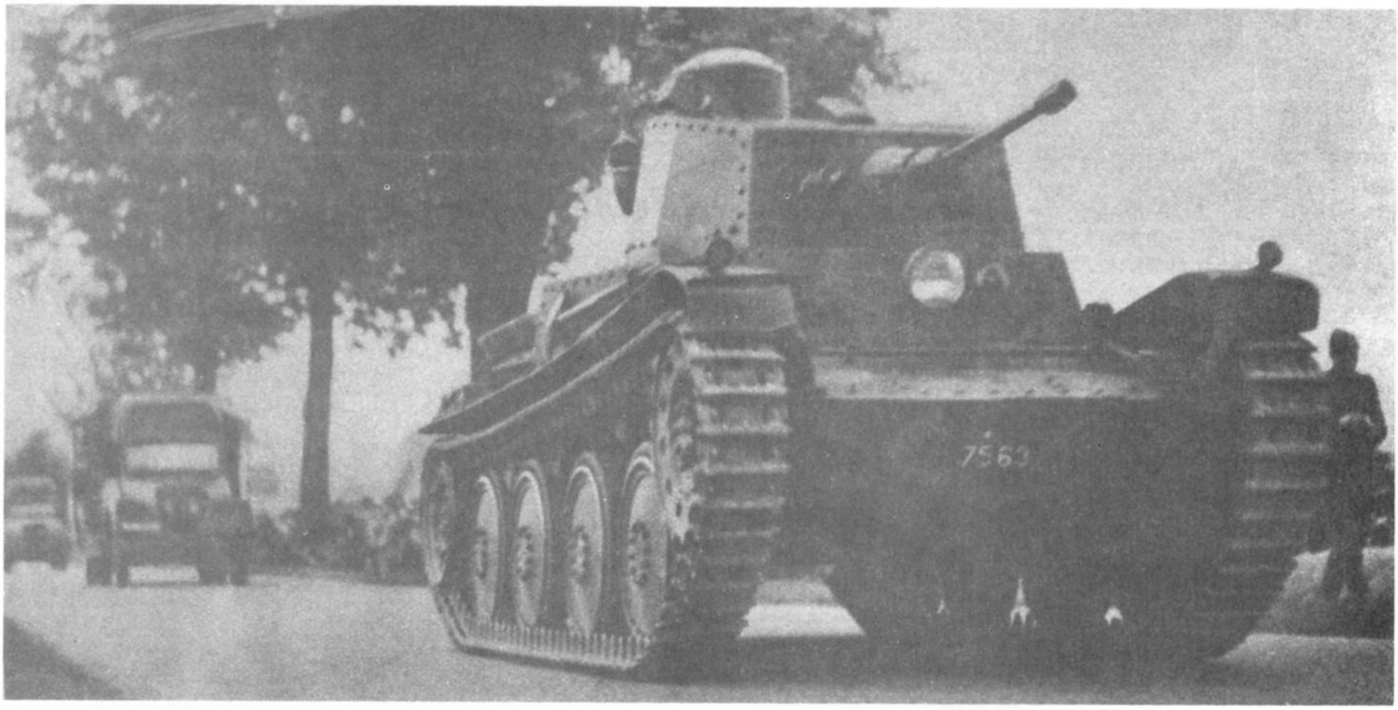
Swiss Panzers •• 1940

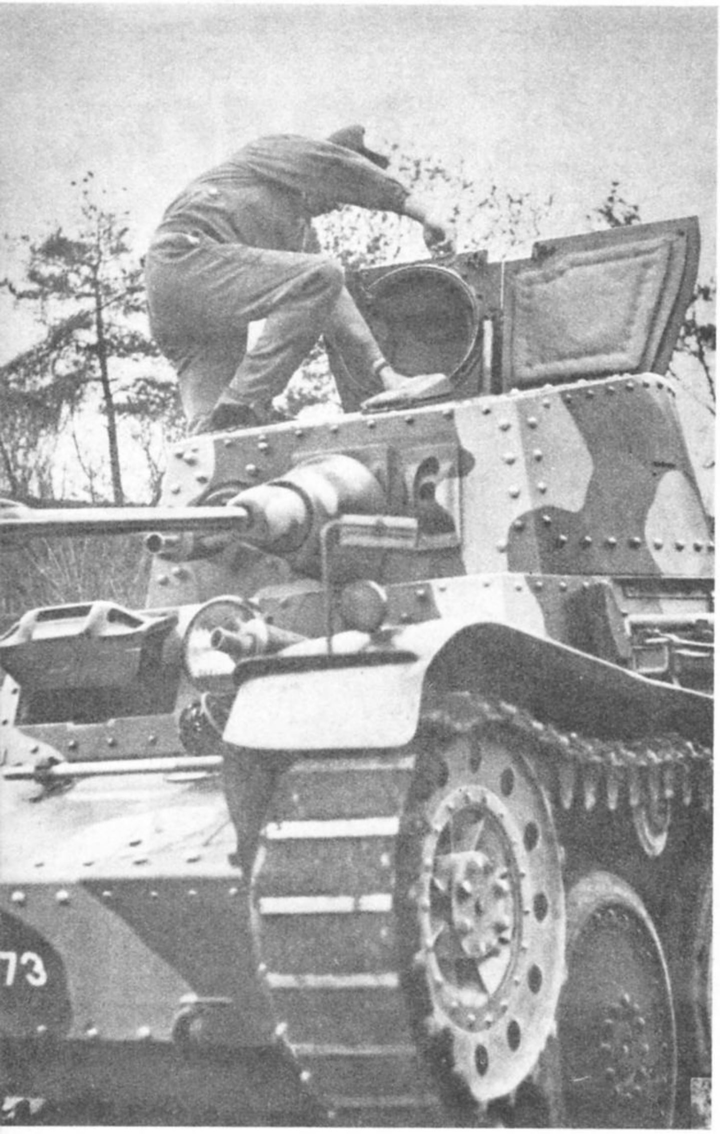
by David Tulis



In the mid-1930's, the nations of Europe were arming and clear-sighted statesmen were aware that small, if not large wars were looming ahead. Small nations felt obligated to arm themselves, if only to deter their larger neighbors. The rise and growth of the new German *Wehrmacht* did its part in creating tension and unease in bordering countries, forcing otherwise neutral and peaceful nations to arms themselves with better and more sophisticated equipment.

The traditionally neutral nation of Switzerland, bordering Germany on the south, was pressured by this situation into increasing the size of its army as well as modernizing much of its equipment. Switzerland had been the developer of many of the newer German arms (this development being done by German owned and controlled firms in Switzerland in an effort to bypass the Versailles Treaty), and this helped to ease the situation in terms of small caliber weaponry.





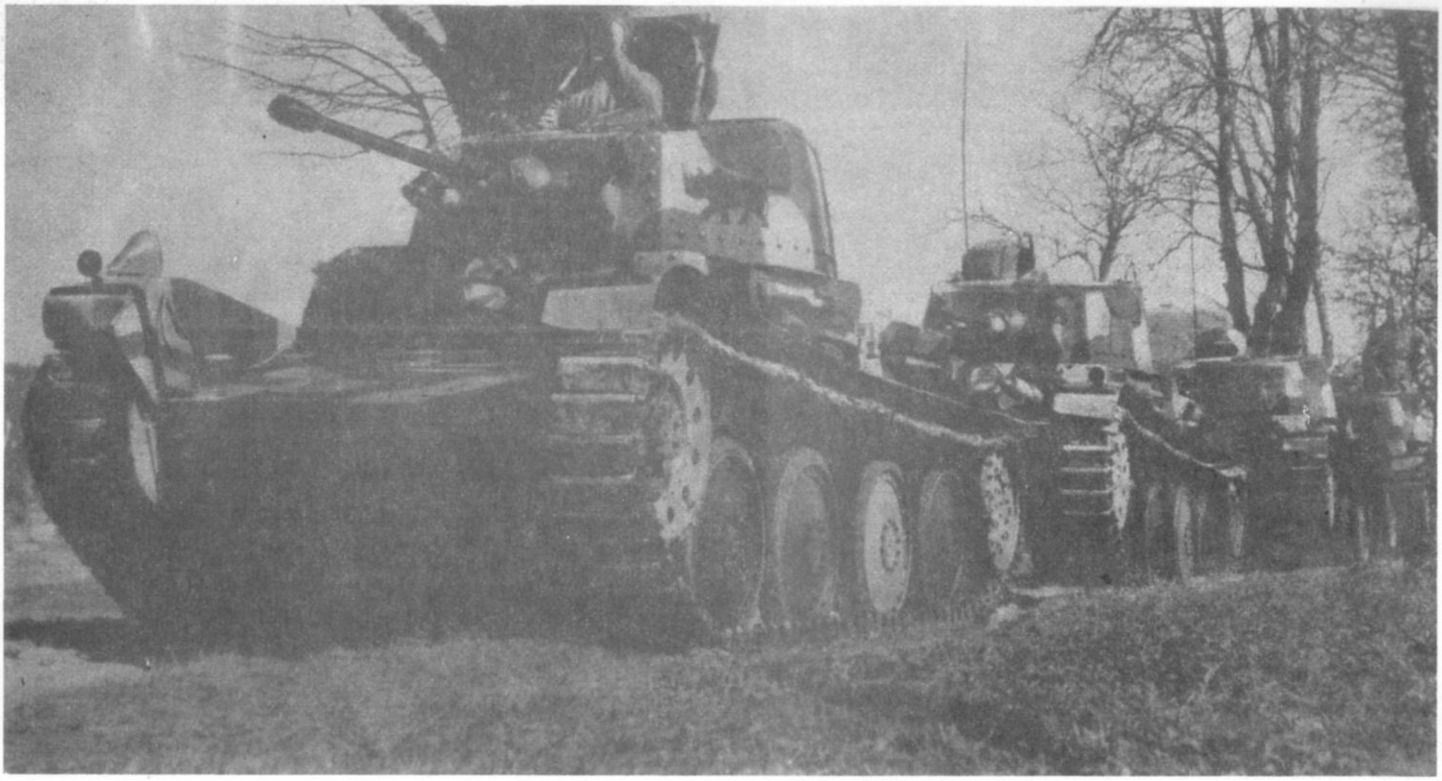
Photo, Above: A somewhat grainy photo of a Swiss Panzer 39 *moving down a road, followed by Army transport vehicles. Note the high commander's cupola on this tank, along with the slim profile of the 24mm cannon barrel.*

Photo, Left: This interesting photo clearly shows details of the Panzer 39. *Note that the entire front roof area of the turret is hinged to lift upwards; this includes the cupola. This photo nicely shows the extent of the padding on the turret roof hatch. Also note the shape and configuration of the driver's visor, as well as the barely-visible jacket for the water-cooled hull mounted machine gun. Note the shovel clamped to the glacis plate, and the single large headlight.*

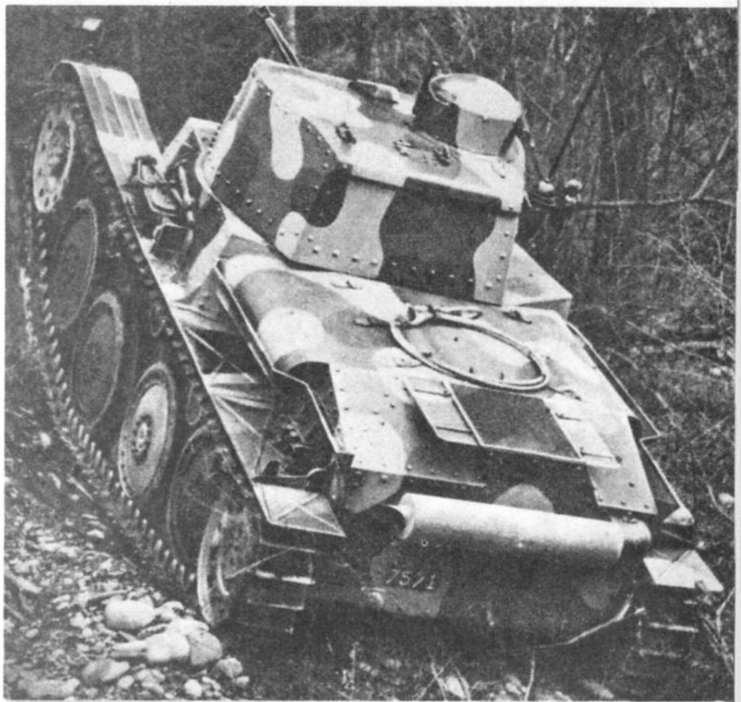
Armored vehicles, however, were a field in which the Swiss had little experience. Under the pressure of time, it was therefore logical and natural for the Swiss to seek tanks from other countries who had them for sale.

At this same time, Czechoslovakia was host to an expanding armaments industry which was seeking outside sales. The famous *Škoda* works, famed for its production of heavy howitzers and guns, military tractors and locomotives, was expanding into the armored vehicle industry. Their rival company was *Českomoravska Kolben Daněk* (or *ČKD*), who had started into armored vehicle production during the depression as a means of keeping its workers employed. Both of these companies actively courted foreign governments, in order to increase sales and production as well as to provide capital for development of more advanced weapons. Both firms were dealing with numerous foreign governments, including China, Iran, Lithuania, Peru, Rumania, Sweden and Yugoslavia, and it was natural for the Swiss to turn towards Czechoslovakia when intersted in purchasing military vehicles.

When the Swiss contacted *Škoda* and *ČKD*, both of these companies were working on new models of tanks; however, the *ČKD* firm had a new light tank under development which was to prove superior to almost all contemporary vehicles. This vehicle, designated the *TNH* by the *ČKD* company (and the *LT Vz.38* by the Czechs in 1938) was fast and well armed (for its day). The Swiss were apparently more interested in license production of an armored vehicle than in outright purchase, and it appears that considerable negotiations took place between *ČKD* and Swiss military representatives before a contract was signed. The result was the *Panzer 39*... as the Swiss designated their vehicle. The *ČKD* company exported 24 of these new light tanks to Switzerland in 1938 and 1939, under the company designation *TNH-H* (the second 'H' indicated 'Helvetia') which some sources indicate as being *LTL-H*. These tanks were provided to the Swiss without engines or armament, and it is



Photo, Above: A Platoon of Swiss Panzer 39*'s in column. Note that the lead vehicle displays the rhinoceros unit marking on the side of the turret. Also note that the turret roof section containing the cupola has been folded back for better access; compare with the cupola on the second vehicle in the line.*



Photo, Right: An angled-rear photo of Swiss Panzer 39 *number 7571. This is an exception photo for details, clearly showing the engine decking and turret roof configuration, as well as left fender stowage. Note that the muffler arrangement differs from Czech and later German tanks on this chassis.*

Photo, Lower Right: The Swiss Army was also equipped with light tanks purchased from Great Britain, and this photo provides a look at several of these tanks during maneuvers.

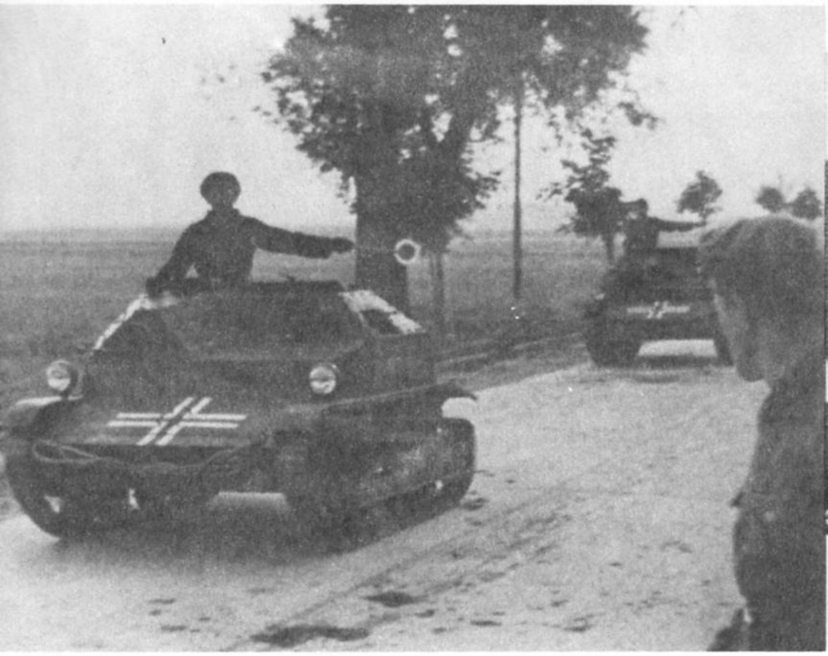
not clear if additional light tanks of this type were to be completely manufactured in Switzerland (and further clarification is needed in this area). Some sources inducate that complete tanks were shipped to Switzerland, minus the engines and weapons; however, other sources indicate that only parts were shipped to the Swiss and that all assembly took place there. It is clear that these light tanks were engined with Sauer diesel engines and that they were armed with high-velocity *Oerlikon* 24mm cannons and two machine guns (one hull mounted and one coaxial with the turret cannon); the machine guns appear to be water-cooled types.

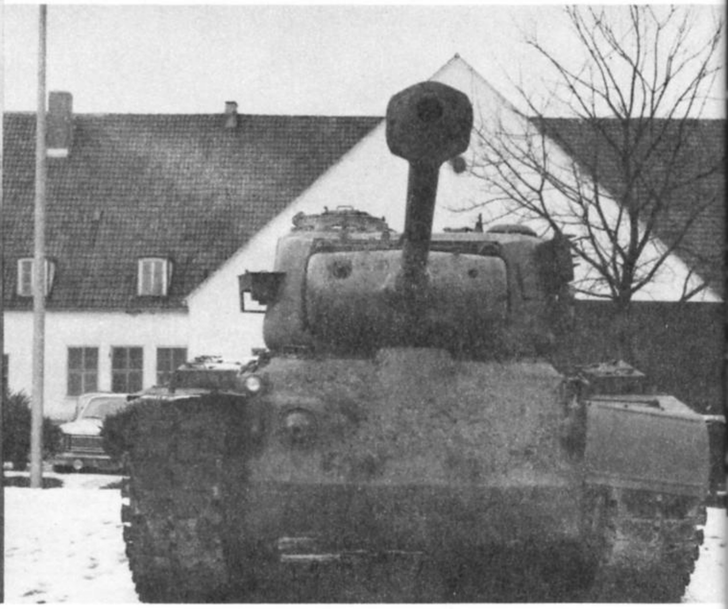
The photographs on these pages were taken from a 1940 period Swiss magazine, and they show typical *Panzer 39* light tanks of a Swiss armored unit during maneuvers. The light tanks appear to be camouflaged in a light brown (or tan), dark brown and green scheme with the lightest color as the base. A comparison of these pictures with photos of the later German *Panzer 38(t)*'s show numerous small detail differences. Note the Swiss unit insignia on the turrets of some of the tanks, consisting of a colored rhinoceros facing forward. One source indicates that the color of this insignia designated the platoon to which the tank was assigned. The Swiss number plates, painted on the hull front and rear, consisted of white numbers on a black background with a small red and white Swiss flag appearing above the numbers. As with all articles of this type, reader comments, corrections and additions are welcomed.

ARMOR IN PICTURES

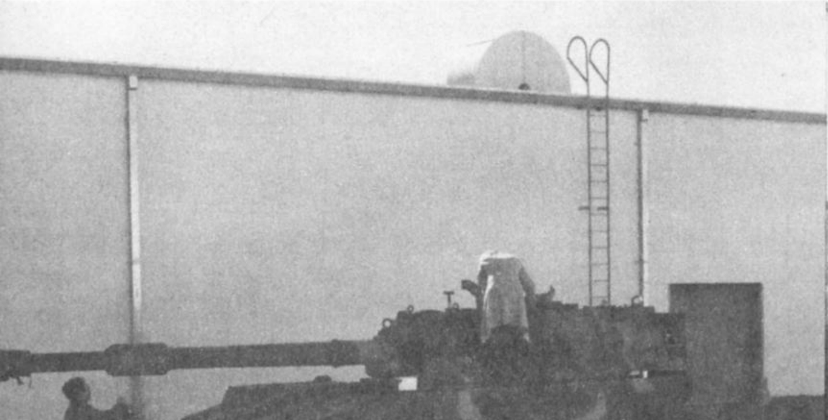
'Armor in Pictures' is a photographic article series to display reader-submitted material on military vehicles and associated models or dioramas. Readers are invited to submit their photographs of vehicles or models for inclusion in this series. Photos should be packed securely, preferably between sheets of cardboard to prevent folding and/or damage, and sent to *AFV-G2*, P. O. Box 820, La Puente, CA 91747, Atten: *'Armor in Pictures'*. Credit will be given in the photo caption for all photos published and all photos will be returned after publication, along with a copy of the magazine in which the pictures appear.

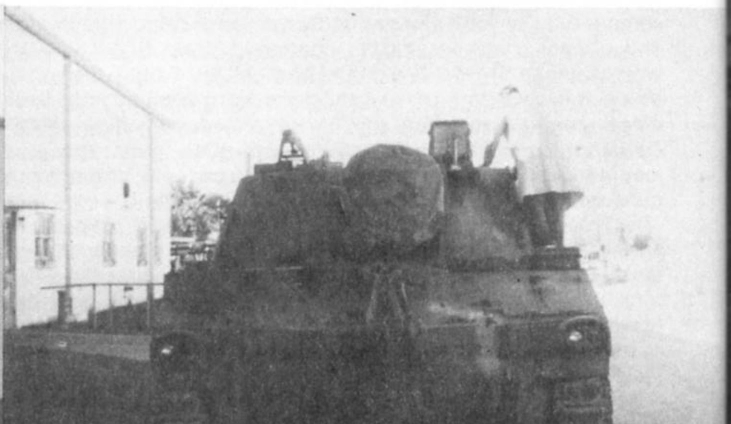
'Armor in Pictures' is also designed to serve readers as a forum for photo requests. If there's a particular photo reference needed, for modeling, for data, for accurate markings, etc., drop *AFV-G2* a note (at the above address) to let the staff know what is required. Our staff will attempt to provide the photos that the readers wish to see, and we'll also provide a list of requested photos that readers are searching for....



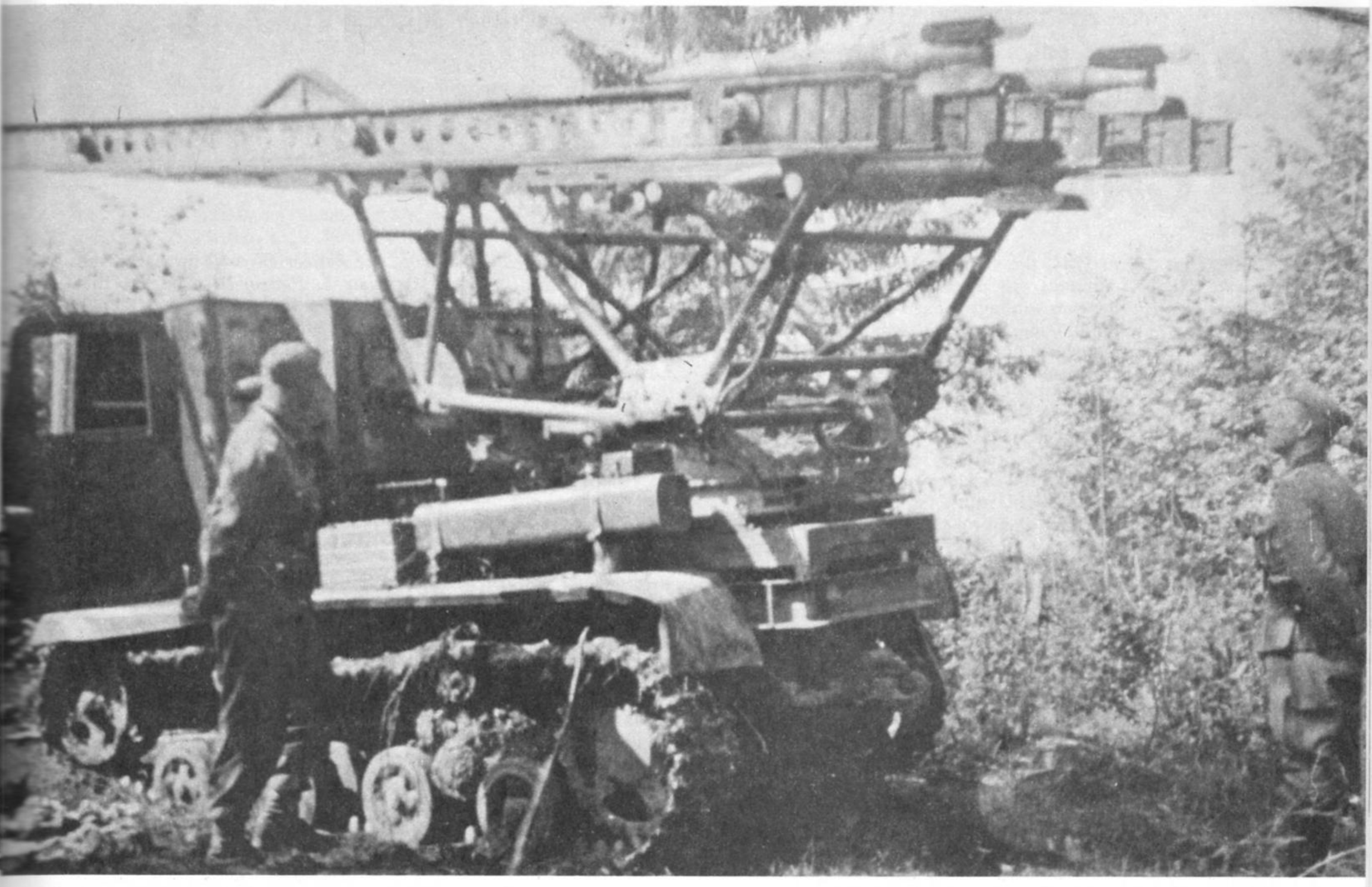


The photo on the left, above, is unusual as it shows Polish *TKS* tankettes, the subject of this issue's centerspread, is use by the Germans. Note the large white crosses on the glacis plates. This photo is from a German veterans collection and is © by John A. Loop. The photo, above on the right, was provided by CPT Robert E. McCaskill. It shows an M26 'Pershing' heavy tank on display at Vilseck, West Germany. Like many display vehicles, this one is probably ex-French and was rescued from the scrap or target yards. Color in this case is faded olive drab with lots of visible rust.

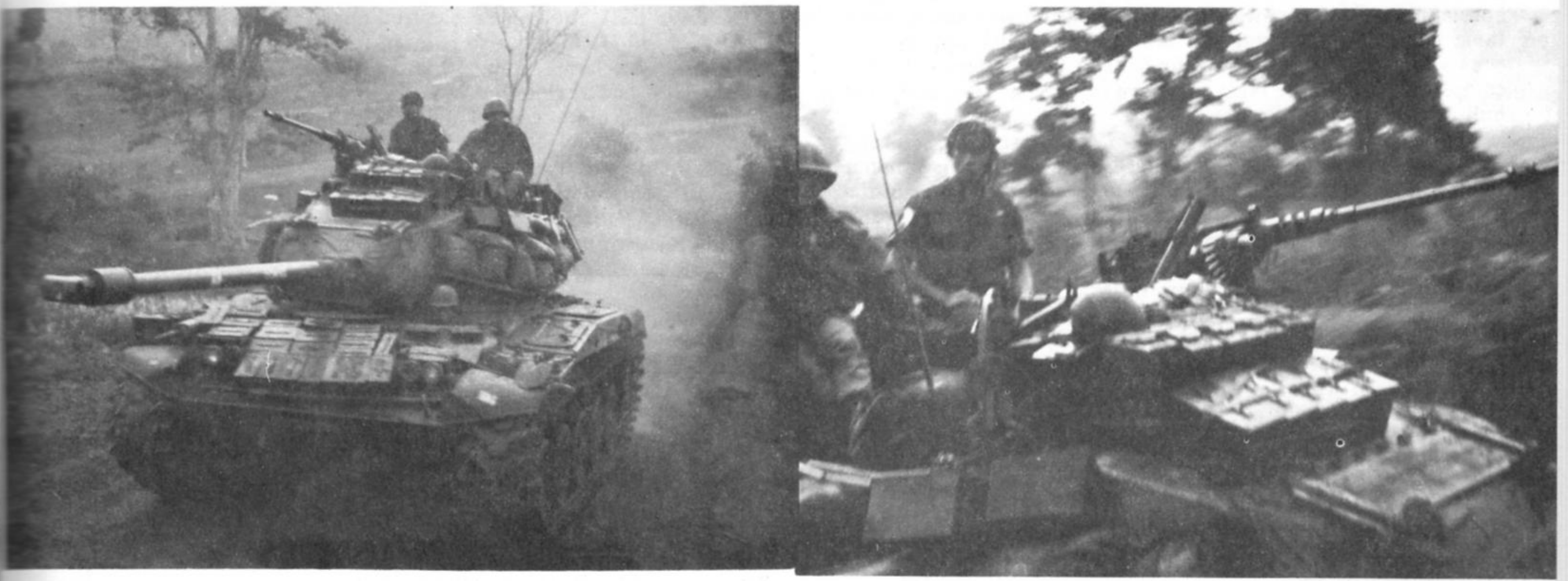




The two photographs above were provided by Paul Studley, and they show an example of the M-109A1 155mm self-propelled howitzer, painted in the desert pattern of the U.S. Army's four-color camouflage scheme. Readers may be interested in comparing this vehicle with the pattern drawings presented in the previous issue. Note the extreme overhang of the long howitzer tube. This photo was taken at Fort Bliss, Texas.



The photo above was discovered in U.S. Army archives and shows a vehicular modification about which little seems to be known. Judging from the two Germans looking at the vehicle, it would appear to be a Russian modification, consisting of a BM-15 'Katyusha' rocket launcher mounted on the cargo bed of an unidentified Russian full-tracked artillery tractor. Can any reader provide more information on this vehicle.



The above two photos were provided by John B. Wager, and show a South Vietnamese Army M41 Light Tank, moving at speed down a dirt road. Note the boxes of small-arms ammunition piled on the glacis plate, and the extra sand-bag armor on the turret sides. Although cramped on the insides and out-gunned by every other tank in Vietnam, M41's served well in several engagements against North Vietnamese T54's and T-55's.

COLOR 'N CAMOUFLAGE

The German Panzer IV.
in Normandy, 1944

by James Steuard and S.R. Cobb

By the first day of 1944, the German *Oberkommando der Wehrmacht* (High Command) was more than certain that the Allied invasion of France was coming. What was not known was where or when the amphibious landings would take place. Accordingly, the German *OKW* undertook the ambitious project of fortifying the coastal areas of France with the intention of forcing the Allies to fight for the beaches. As a part of this plan, a total of ten German *Panzer-Divisionen* were moved into France as the mailed fist which was to strike at the landings and drive the invaders back into the sea. These armored divisions, most of them tired and battleworn from the Russian Front, were to spend the available time before the landings in re-equipping and training for their role in the defense of the coast. Prior to the landings, all but two of these *Panzer-Divisionen* were brought up to virtual full strength, and the units were well prepared for the coming fight. The two vehicles illustrated in this article were a part of the major training efforts of two different German divisions.

The first vehicle to be illustrated (opposite) was a *Panzer IV., Ausführung H,* assigned to the *8. Kompanie* of *Panzer-Regiment 4.*, the divisional tank regiment of the *2. Panzer-Division*. When it arrived in France in January of 1944, *2. Panzer-Division* was assigned to *15. Armee* as part of the strategic reserve for *Armee-Gruppe 'B'*. Located near Amiens, this division was rapidly brought up to full strength and was placed on an ambitious training schedule. The vehicle shown opposite was assigned to the 2nd Platoon Leader of the *8. Kompanie*, and was featured in a number of propaganda photographs taken of this division during its training.

In common with most German armored vehicles in the west, this *Panzer IV.* was painted in the standard three-color camouflage scheme, consisting of Sand-Tan Primer, Dark Green and Red Brown. The green and red-brown camouflage colors were applied to the tank with spray equipment, resulting in soft edges between colors. Most of the two camouflage colors were applied to the vehicle in a vertical direction, creating a pattern which is somewhat reminescent of a zebra's stripes. A special note of interest was the pattern on the side skirts of the tank; note the re-occuring red brown spots which appear at a constant height along the skirting panels. This pattern extended completely around the tank, as shown in the rear view and front hull drawings, opposite.

The *2. Panzer-Division*'s *Panzer IV.* was well marked, and most markings followed the standard pattern which is familiar to most German armor enthusiasts. On the sides and rear of the turret supplemental armor appeared a three-digit 'turret identification number' which identified the position of the tank within the company it was assigned to. In this case, the number '821', painted in 12-inch high white (outline) stencil style numbers, designated the vehicle as the number *1* vehicle of the *2*nd Platoon of the *8*th Company. Note that the numbers as painted on the rear of the supplemental armor are split and are not aligned on the same level.

Forward of the turret numbers appeared a 9-inch square 'Balkan' cross which served to identify the tank as German. This marking had fairly thin black centers and fat white outlines. No crosses appeared on the rear of the tank's hull.

On the hull front, above and to the left of the radio operator's hull machine gun, appeared the *'Fahrgestellnummer'* (or Chassis number) of the tank; this identified the vehicle as an *Ausführung* (or Model) *H*, as well as serving as the vehicle's registration number. This number was painted in 2-inch high numbers, consisting of the digits: 89534. Most German tanks did not carry this number in such a prominent style, and in this case, it would tend to indicate that this tank was newly assigned to the German unit.

On the front and rear of the *Panzer IV.* hull appeared the tactical marking for the German *2. Panzer-Division*; at this period of the war, this consisted of a three-pronged 'trident', painted in a white stencil format, approximately 9 inches high. On the front, this marking appeared on the far right, next to the driver's visor. On the rear, this marking also appeared on the extreme right side (as you view the tank) of the hull. This marking has been variously identified in the past by numerous authorities, however, it has been verified as belonging to the *2. Panzer-Division*, both from the divisional history and from the divisional nickname which terms the division as the 'trident' division.

It appears that the photographs of this tank (upon which the drawings are based) were taken some time in May of 1944, approximately a month before the actual invasion. Following the Allied landings, the *2. Panzer-Division* entrained and moved towards the front, taking numerous vehicle and personnel casualties from air attacks. Although the division's infantry entered combat near Villers-Bocage on June 13th, the tanks were held in reserve for over a week after this, waiting for the expected fighting in the Pas de Calais area. It is not known what the eventual disposition of this *Panzer IV.* was, but it was undoubtedly destroyed, either by Allied air or in the fierce fighting that took place in late June and early July of 1944.

The second vehicle to be illustrated in this article was assigned to the *6. Kompanie* of *SS-Panzer-Regiment 12.*, the divisional armor unit of the *12. SS-Panzer-Division 'Hitlerjugend'*. Formed in July of 1943, it was in October of that year that this division was converted to 'armor'. During the early days of its existance, the division was encamped in Belgium and Northern France. By March, 1944, the division was in an advanced state of training and was judged combat-ready in May. Anticipating the invasion, *12. SS-Panzer-Division* was moved to reserve positions in Northern France, near Evreux, Bernay and Vimouthiers, assigned to the *I. SS-Panzer-Korps*. Practice alerts and advanced training continued while the division awaited the invasion.

Like '821', the vehicle pictured opposite was a *Panzer IV., Ausführung H*. It was also painted in the standard three-color camouflage scheme, but with a much more open pattern, as illustrated in the side view. As the dark green and red brown camouflage colors were applied with spray equipment, the edges between colors are soft and blending. Note that the dark green paint was used to a greater extent than the red brown.

In comparison with the *2. Panzer-Division* tank, the *Waffen-SS Panzer IV.* was more sparsely marked. On the sides of the turret supplemental armor plating appeared the standard three-digit turret identification numbers '635', identifying this tank as the *5*th tank of the *3*rd Platoon of the *6. Kompanie*. These numbers were painted in 12-inch high characters in black with white outlines. As the turret supplemental armor was covered with *'Zimmerit'* anti-magnetic mine paste, the turret numbers were crudely hand painted on top of the irregular paste.

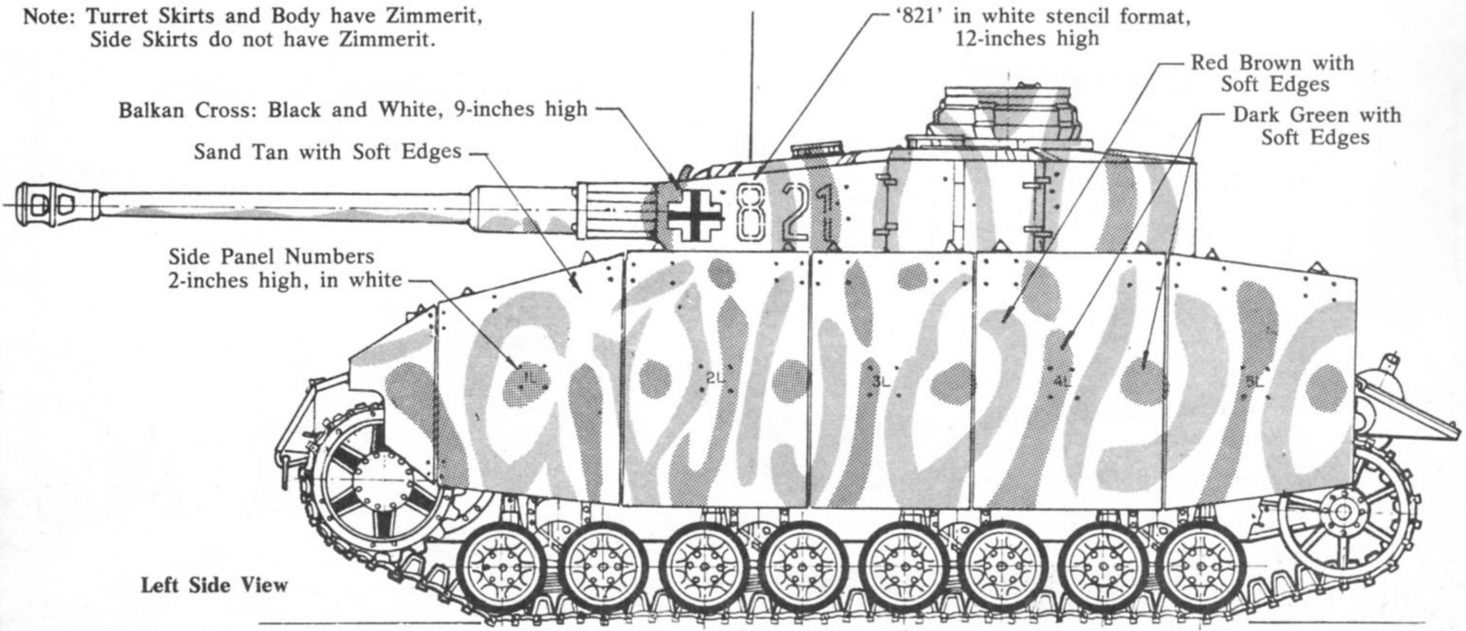
Forward of the three digit turret numbers appeared 9-inch high Balkan crosses. Like the first tank, these appeared with thin black interiors and fairly fat white outlines. Although difficult to determine, it appears that identical Balkan cross

Continued on Page 46

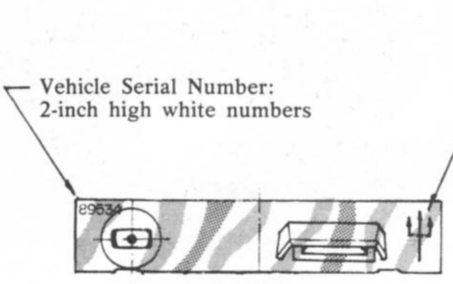
GERMAN RED BROWN

13 pts	Floquil M79 Brown
3 pts	Floquil DH10 Caboose Red
1 pt	Floquil RR12 Reefer Gray
1 pt	Floquil RR13 Grimy Black

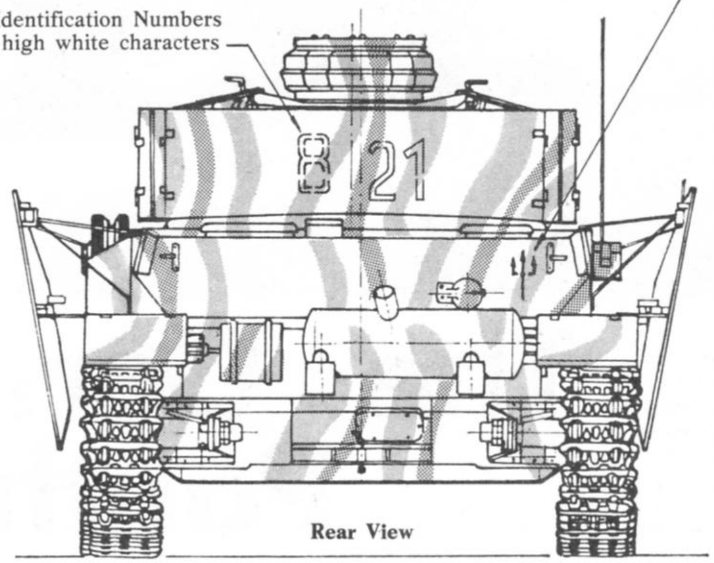
🟫


Note: Turret Skirts and Body have Zimmerit, Side Skirts do not have Zimmerit.
'821' in white stencil format, 12-inches high
Red Brown with Soft Edges
Dark Green with Soft Edges
Balkan Cross: Black and White, 9-inches high
Sand Tan with Soft Edges
Side Panel Numbers 2-inches high, in white
821
1L
2L
3L
4L
5L
Left Side View

Panzer IV., Ausführung H **2. Panzer-Division**


2. Panzer-Division Tactical Symbol: a 9-inch high white stencil Trident
Vehicle Serial Number: 2-inch high white numbers
89534

Hull Front

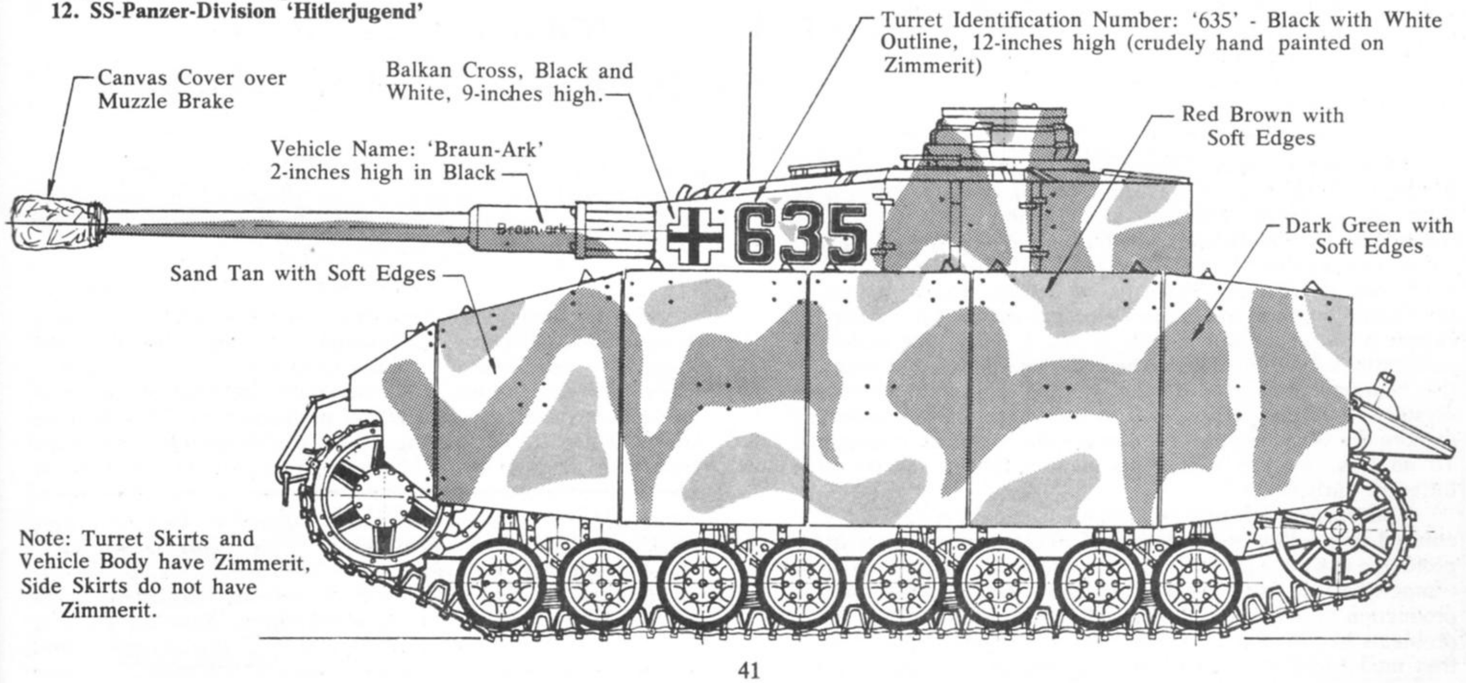


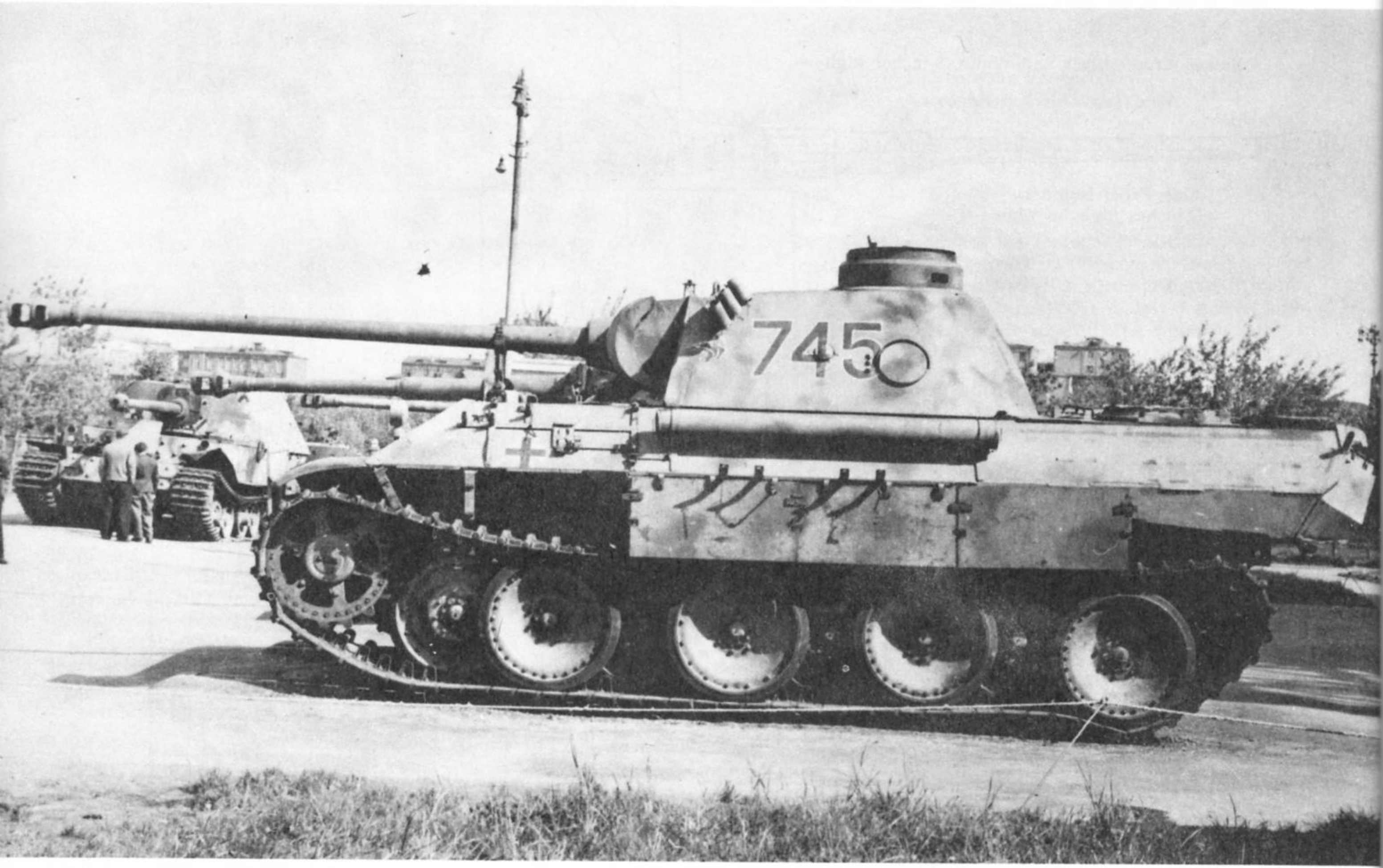
Rear View

THE GERMAN PANZER IV. IN NORMANDY, 1944

Drawings are not to a particular scale.

Panzer IV., Ausführung H
12. SS-Panzer-Division 'Hitlerjugend'


Turret Identification Number: '635' - Black with White Outline, 12-inches high (crudely hand painted on Zimmerit)
Canvas Cover over Muzzle Brake
Balkan Cross, Black and White, 9-inches high.
Vehicle Name: 'Braun-Ark' 2-inches high in Black
Braun-Ark
635
Red Brown with Soft Edges
Dark Green with Soft Edges
Sand Tan with Soft Edges
Note: Turret Skirts and Vehicle Body have Zimmerit, Side Skirts do not have Zimmerit.



The German Panther Story

Part 1. Identification

by Rainer G. Hanxleden

Most armor experts agree that the best all-around tank design of World War II. was the German *Panther*. Indeed, an article appearing in 'Armor' magazine in the 1960's reached the conclusion that the *Panther* was the *one* World War II. vehicle which was capable of sustaining itself on a modern-day battlefield. The *Panther* continues to be popular today; its clean, sloped-hull outlines and its awesone reputation have made the vehicle a favorite of armor enthusiasts. A fairly-wide variety of publications have been published on this vehicle, but many of the characteristics and details of this tank still remain a mystery. It is the purpose of this article series to thoroughly explore the German *Panther* in as many aspects as is possible. To do this, we are calling on many different talents from different authors.

The German *Panzerkampfwagen V. 'Panther' (Sd.Kfz.171)* entered production in November of 1942, soon after the MAN prototype (Vk 3002 [MAN]) was accepted over its Daimler-Benz competition. It is a basic fact that the *Panther* entered production too quickly, before all of the prototypes' major problems had been solved. Mechanical difficulties plagued the first model and its combat debut during the Kursk offensive (*Unternehmen Zitadel*), was far from being a success. The *Panther* was the subject of a program of continuous modifications, and the late-war production vehicles were far superior to almost every opponent.

Ausfuhrung D

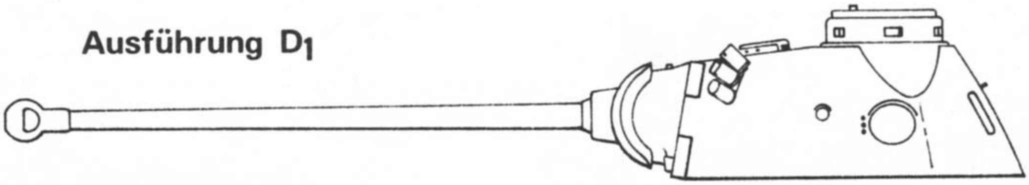
The initial production version of the German *Panther* was designated *Ausführung A*, although this designation was soon changed to *Ausführung D*, in the first, full-production batch of tanks. the designation *'D1'* was then assigned to the pre-production vehicles, while actual production vehicles became known as the *'D2'*. The designations *Ausführung B* and *C* were apparently used for more advanced paper projects which never

Photo, Above: One of the 'Kursk Offensive' Panthers, *here shown on exhibit in Moscow in 1944. This is an early* 'Ausführung D2'*, as evidenced by the drum-style cupola, the small round 'loading' hatch in the turret side, the double-baffle muzzle brake, and the smoke dischargers. Note the snarling Panther head unit insignia forward of the 3-digit turret numbers. Photo credit: Col. G.B. Jarrett collection.*

Identification of Panther Variants · 1

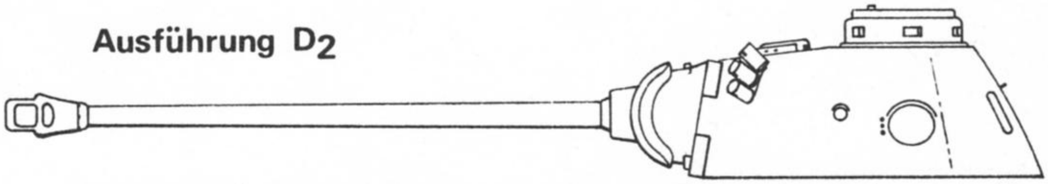
TURRET DETAILS

Ausführung D_1



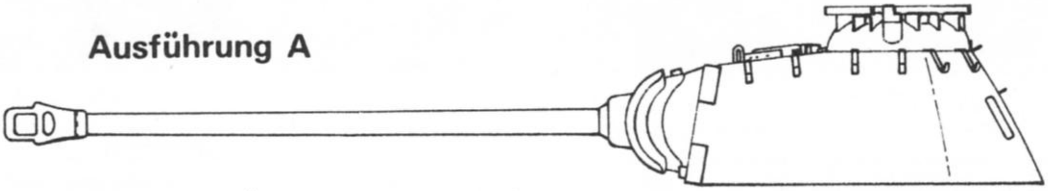
Pre-Production *Ausfünhrung D* or *'D1'*. Offset Drum-type Cupola with enlarged turret side. Shell Ejection Port on left Turret Side. Single Baffle, Ball type Muzzle Brake. Note Smoke Grenade Dischargers, and side Pistol Port.

Ausführung D_2



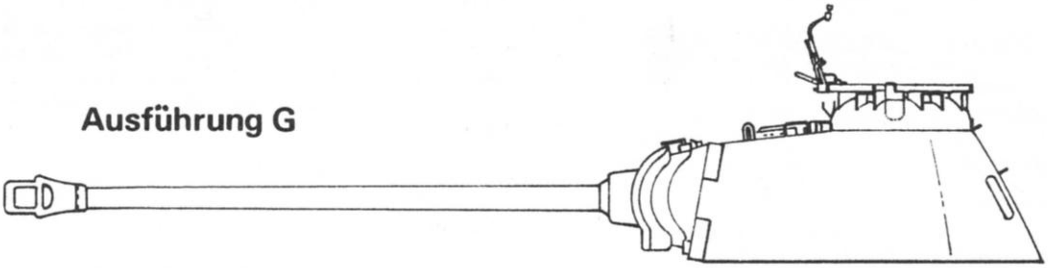
Production *Ausführung D* or *'D2'*. Drum style Cupola moved inward to eliminate bulge in Turret Side. This version retains the Smoke Grenade Dischargers, and Pistol Port in Turret left side. Muzzle Brake changed to Double-Baffle style commonly used on other weapons.

Ausführung A



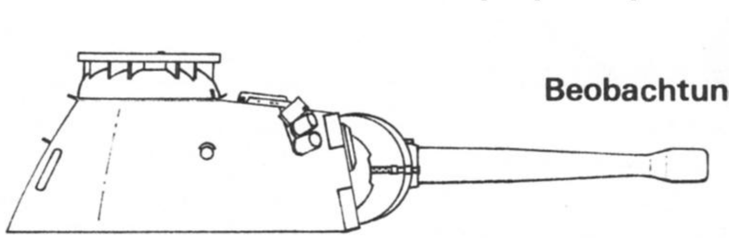
Production *Ausführung A*. Pistol Ports removed. Cupola changed to Episcope type. Episcope mounted on turret roof for increased crew vision. Spare Track Clips (optionally) mounted at top of Turret Sides. Gun Mantlet sides are strengthened and reinforced.

Ausführung G



Production *Ausführung G*. Second Episcope mounted on Turret roof for increased vision. Splash shields mounted over top of Gun Mantlet for protection. Gun Mantlet changed in lower profile to eliminate shot trap which deflected shot downward. *Fliegerbeschussgerat* mounted on Cupola (although retrofitted to earlier versions). Additionally, Commander's Sighting Vane is mounted in front of the 12 O'Clock Episcope in Cupola.

Beobachtungs-Panther

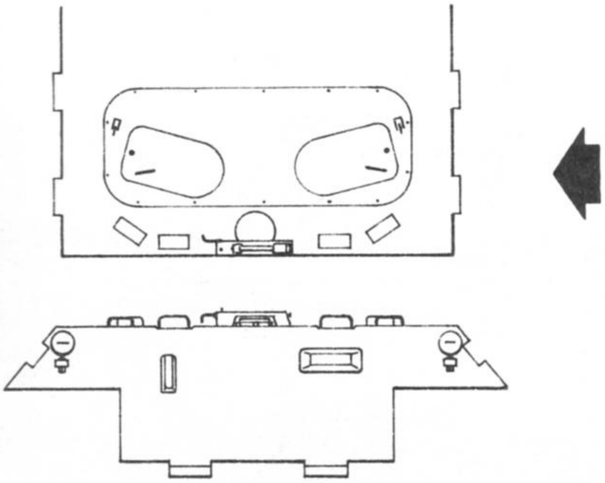


Beobachtungspanzer Panther (*Sd. Kfz. 172*). This vehicle is a *Panther 'D'*, converted to Observation Post or Command Post vehicle. Note that Turret is from a *'D1'* but has later-style Episcope Cupola. Wooden Dummy Gun, and Machine Gun in Ball Mounting is only armament on vehicle. Pistol Port on right side of Turret is higher than on regular *'D1'*.

RAINER G. HANXLEDEN

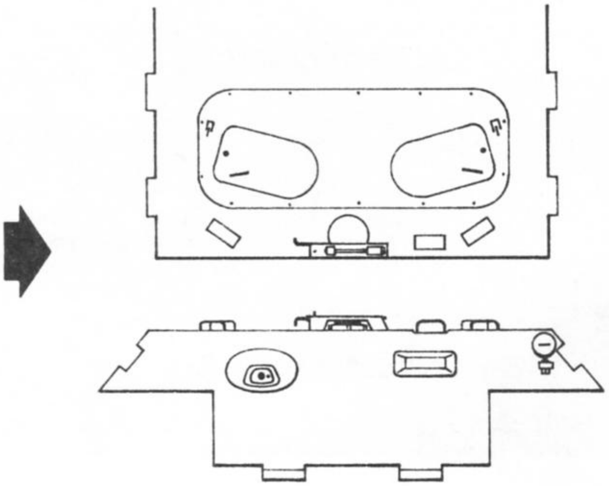
Identification of Panther Variants · 2

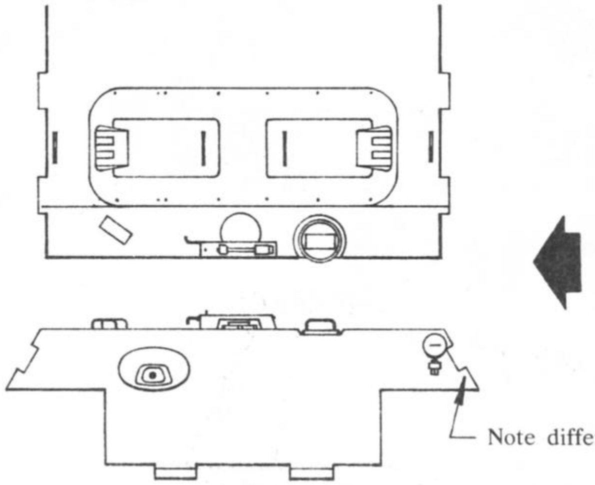
HULL DETAILS
Front & Top Fittings



Ausführung D. Lift-and-Swivel type Crew Hatches. Four fixed Episcopes, two for Driver and two for Radio Operator. No Ball Mount Bow Machine gun; Radio Operator instead has vertically-hinged Pistol Port Flap. Driver also has vertically-hinged Vision Port in Hull Front. Vehicle has two Headlights, one on either side of Hull. Both are removable for installation of Blackout *'Notek'* Lights.

Ausführung A. Crew Hatches remain of Lift-and-Swivel types as on earlier *Ausf. D.* Three fixed Episcopes in Hull top, one for Radio Operator and two for Driver. Radio Operator's Pistol Port replaced by Ball-Mounted *MG34S* Bow Machine Gun. Driver retains vertically-hinged Vision Port. One Headlight, which is removable, mounted on Driver's side of Hull Front.



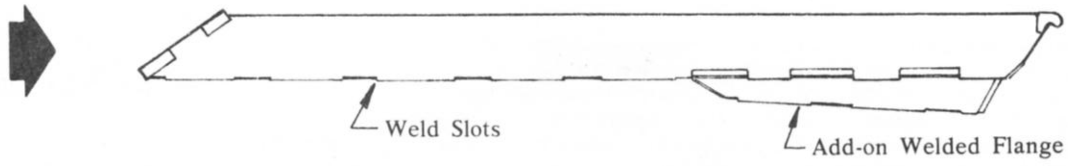


Ausführung G. Lift-and-Swivel Crew Hatches replaced by outside Hinged Hatches which are set perpendicular to Hull Sides. Radio Operator retains one, slanted-position Episcope, but Driver's two Episcopes are replaced by one rotatable Episcope which is set slightly down into the Hull. Driver's Vision Port in Hull Front is removed. Although difficult to determine, Hull Sides slope differently (at a more acute angle) than on previous versions. Single Headlight on Driver's side of Hull.

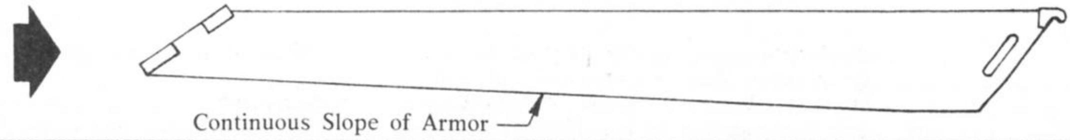
Drawings Scale - 1:48

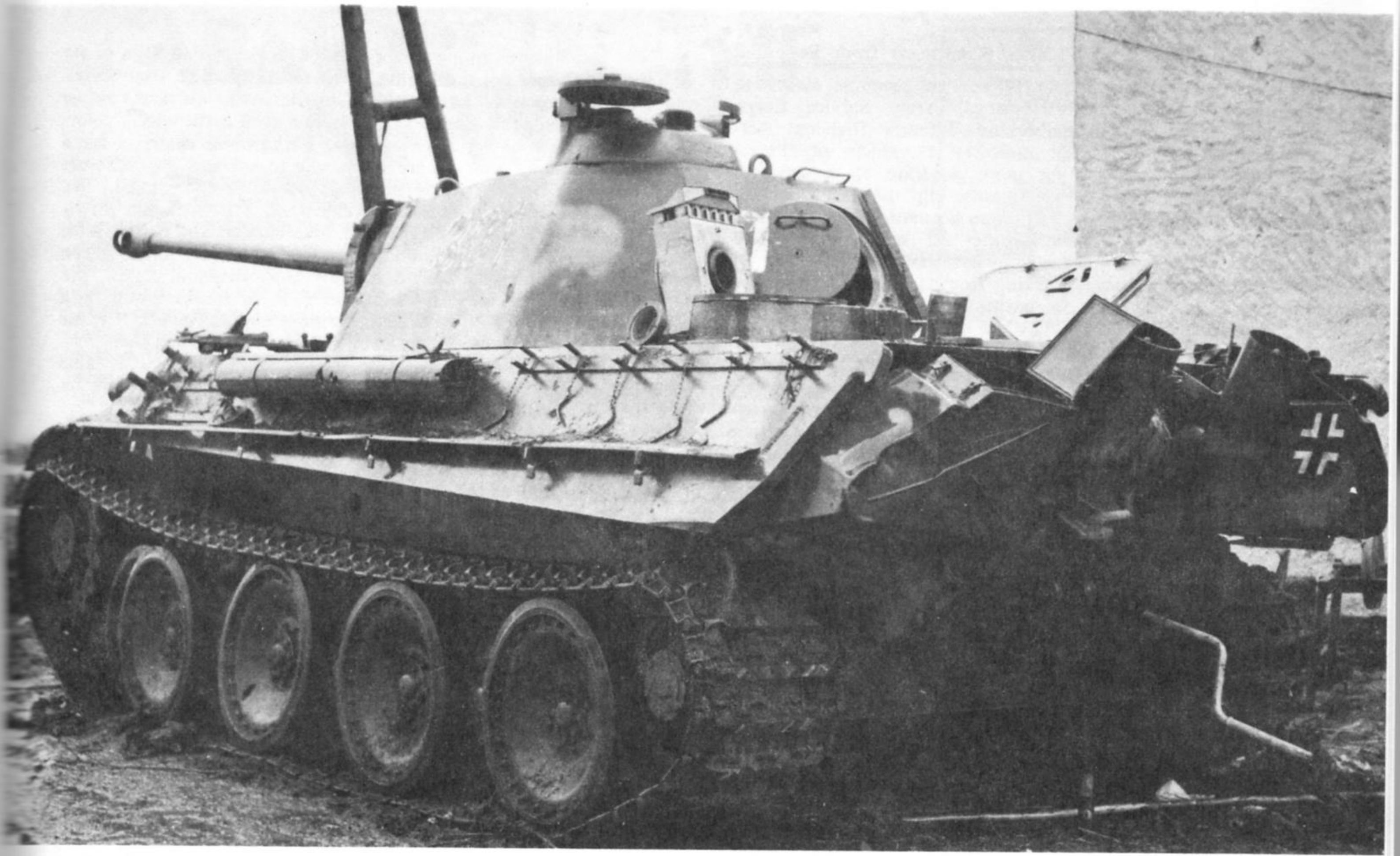
Hull Sides

Ausführung D and A



Ausführung G





Photo, Above: This abandonned Panther *is an* Ausführung G, *identified by the angled rear side armor. Note the open driver's hatch. The turret numbers '301' have been applied over an earlier set of numbers. This vehicle apparently had engine trouble; note the handcrank starter. Credit: Col. G. B. Jarrett.*

went into production.

As shown in the drawings in this article, the early '*D1*'s' can be recognized by the single-baffle muzzle brake on the *7.5 cm L/70* gun. The commander's cupola was offset far to the left side and there was an enlarged bulge in the turret side to accomodate the commander. These elements were changed on the '*D2*'. *Ausführung D*'s can be further identified by the lack of a ball-mount for the hull machine gun; instead, there was a vertically hinged flap through which the radio operator fired the machine gun. Smoke dischargers were mounted at the forward corners of the turret, and there were pistol ports and a small circular 'loading' hatch on the left rear of the turret.

Ausführung A

For some unexplainable reason, the second major production variant of the *Panther* was designated the *Ausführung A* instead of the '*E*'. Appearing in late 1943, this vehicle now had a re-designed commander's cupola as standard (although this had been fitted to late *D2*'s). This cupola featured a horizontally-sliding hatch, armored periscopes, and an upper curved ring fastened to the cupola which was used to mount an anti-aircraft machine gun (the *Fliegerbeschussgerät*). The hull machine gun was mounted in a ball-mount similar to those on *Panzer III.*'s and *IV.*'s. Side armor skirts were now standard, and the turret side pistol ports and small hatch were eliminated. Other changes were as shown in the drawings.

Ausführung G

The final full-production version of the *Panther* was designated *Ausführung G*; the *Ausf. F* designation being applied to the so-called *Panther II.* development. The *Ausführung G* featured a redesigned hull, whose side plates were at a different angle and which had no vertical plate at the rear of the hull side. Skirts were hung from a prominent rail running down the hull side. The horizontally-sliding crew hatches, common to the *Ausführung D* and *A*, were deleted in favor of upwards-raising hatches hinged on the outside. This change was made to eliminate hatch jamming problems common with the horizontal opening hatches. The new hatches were aligned squarly with the hull, instead of being slanted (as on earlier variants). The driver's vision hatch in the glacis plate was deleted, being replaced by a single, rotatable periscope in the hull roof. On late *Ausführung G*'s, the gun mantlet was redesigned to provide a flat face beneath the main gun; this change was made to eliminate a dangerous shot trap which funnelled projectiles downward into the fighting compartment. Other changes can be noted in the drawings.

Beobachtungspanzer Panther

One final version of the *Panther* deserves mention. This was the artillery observation vehicle known as the *Beobachtungs-Panther*. This vehicle was a conversion made to provide artillery forward observers with a vehicle which closely resembled the main battle tank. The conversion was done to early *Ausführung D*'s as they became obsolete as tanks. This conversion removed the main gun and substituted a fake, wooden short gun barrel to give the illusion of a operative weapon. This vehicle was armed only with machine guns, and little is known about the number of these vehicles actually constructed.

Befehlspanzer Panther

Command vehicles based on the *Panther* tank were easily constructed by the installation of additional radio equipment to provide command links between higher level units. The command tanks can be recognized by the longer-range ground-plane antenna mounted at the extreme rear of the hull. This antenna can be recognized by the star pattern elements radiating outward at the top of the antenna. With the exception of the extra communications gear, no changes were made to the vehicle.

MARKING BRITISH VEHICLES (Continued from Page 24)

examples are self-contradictory. The first example claims to represent the vehicle of the Royal Army Service Corps Commander, 50th 'Northumberland' Infantry Division. Actually, the '71' Unit-Serial indicates a vehicle of 'Petrol Company' and would be far more accurate on a soft-skin 15-cwt. truck. To correct this scheme, clip the '40' from the bottom of the 79th Armoured Division Formation Sign, and use it to replace the '71'. Leave off the 'A2' marking shown in Column B, as this was used only by artillery units. Use the '9' on a yellow circle Bridge Marking from the Peerless artillery tractor kit; position this in position 'E' as shown on the instruction sheet. Add a circled white star on the hood as a final touch.

The second Peerless scheme, for a Headquarters vehicle of the 79th Armoured Division is substantially correct, but should have the '40' separated from the 'Bulls Head' insignia. The '40' should then be positioned on the right front fender and the right rear of the body. Again, the 'A2' marking is not used.

The third example is hopeless! The Formation Sign is for the **8th Corps**, not the Eighth Army as stated. The Unit-Serial-Number complex has nothing to do with an artillery or 'observation post' vehicle. The number itself is the wrong color, and the Arm-of-Service Flash (the background color) is for a reconnaissance unit. There is no way to salvage this scheme.

The Canadian Army markings set is also confused. The Formation Sign identifies a vehicle of 1st Canadian Army Troops. The Unit-Serial '172' on a blue background is not valid, however. The correct marking would be a '155' on a green background for 2nd Canadian Army Tank Brigade. Again, the 'A2' marking, called for in Column B, is inappropriate and should be left off. The Census Number should have a 'CF' or 'CZ' prefix, not an 'A' as shown in the instruction sheet.

The New Zealand example provided in the kit is also suspect, however, this will be covered in a separate article on New Zealand markings and insignia.

The illustrations on the preceding page show some alternate markings schemes for the Peerless M3A1 kit.

TABLE II. - MOTOR AND LORRIED INFANTRY BATTALIONS - NORTHWEST EUROPE, 1944

	Formation Sign	*Unit-Serial-Number*	*Arm-of-Service Flash*
1st Battalion, Grenadier Guards	*Guards Armoured Division*	*54*	*Red*
5th Battalion, Coldstream Guards	*" " "*	*61*	*Green*
3rd Battalion, Irish Guards	*" " "*	*62*	*Green*
1st Battalion, Welsh Guards	*" " "*	*63*	*Green*
1st Battalion, The Rifle Brigade	*7th Armoured Division*	*54*	*Red*
1st/5th Queens	*" " "*	*61*	*Green*
1st/6th Queens	*" " "*	*62*	*Green*
1st/7th Queens	*" " "*	*63*	*Green*
8th Battalion, The Rifle Brigade	*11th Armoured Division*	*54*	*Red*
3rd Battalion, Monmouths	*" " "*	*61*	*Green*
4th Battalion, K.S.L.I.	*" " "*	*62*	*Green*
1st Battalion, Herefords	*" " "*	*63*	*Green*
12th Battalion, King's Royal Rifle Corps	*8th Armoured Brigade*	*475*	*Red*
2nd Battalion, Kings Royal Rifle Corps	*4th Armoured Brigade*	*125*	*Red*

Color 'n Camouflage: *Panzer IV.* (Continued from Page 40)

appeared on the rear of the turret supplemental armor plating.

On both sides of the gun tube, painted in 2-inch high letters in black paint, appeared the crew nickname for their tank: *'Braun-ark'*. This marking has been the subject of an armor kit decal in the past. While on the subject of the gun barrel, the muzzle brake on this particular *Panzer IV.* was covered with a canvas protective cover which was tied at the rear of the muzzle brake. Also note that the gun tube was countershaded with dark green paint on the undersurfaces; this served to disguise the barrel from the side.

No other markings appeared in this particular tank. While a good many of the vehicles of the *12. SS-Panzer-Division* were marked with this division's tactical marking (in white), the marking was absent from quite a few of the divisional *Panzer IV.* and *Panther* medium tanks.

The particular photograph upon which this article is based were apparently taken in late April or early May of 1944, when the division was completing training. After the Allied landings in June, the *12. SS-Panzer-Division* moved forward to oppose the British forces on the northern sector of the battle zone. Fighting opposite the town of Villers-Bocage (and later Caen), this *Waffen-SS* division was soon in fierce fighting against Canadian troops. In this fighting, the armored elements of the division were soon decimated, and less than 400 men of the division survived the encirclement near Falaise. It is almost certain that '635' was lost in the fighting near Caen. Interestingly enough, the remaining armored elements of the *2. Panzer-Division* were attached to the *12. SS-Panzer-Division* during the fierce battles near Caen. Although impossible to determine, it is even possible that the two tanks illustrated in this article were employed near each other!

Models in Review (Continued from Page 21)

Gun Officer (or Commander of a vehicle.) The figure depicts an officer, standing and looking slightly downward at a map, which is held in his left hand. His right hand is pointing to a feature on the map, as though showing a tactical position to other personnel. On his chest, the figure displays the small 6x30 binoculars (which are far more commonly seen on infantry figures), and the figure wears the standard assault gun (green) version of the tanker's uniform, complete with camouflage-covered steel helmet and magazines for an MP-40 machine pistol. The pose is an excellent one to be used in either a figure grouping or together with an armored vehicle model such as Tamiya's **Sturmgeschütz III., IV.** or **Panzerjäger IV.** Other identical figures could be altered slightly to make for a totally believable crew briefing scene.

Squadron's German Assault Gun Officer is a multiple-piece casting, featuring separate arms. The figure is cast onto a metal base, which may be incorporated directly into a scene (by covering part or all of the base with plaster when forming the ground). A small amount of casting flash was evident on our sample figure; however, this was easily cleaned off with a fine file. We encountered a fair amount of difficulty in attaching the separate arms; it took some file work to reduce the size of the locating pins and to create a seamless join which looked

Continued on Page 47

ARMOR IN THE NEWS...

One of the most interesting areas of vehicular development in the U.S. Army has been the search for a vehicle to transport the TOW guided missile system. As most readers are aware, the initial form of vehicle was the M113A1 armored personnel carrier, modified to mount the TOW on the roof. (See AFV-G2, Vol. 4 No. 12 for a photo, and Vol. 5 No. 4 for an organizational system using the TOW.) The M113A1 (Modified), although adequate in terms of general mobility, lacks protection for the TOW crew and has a high silhouette. The search for a more adequate vehicle has taken two directions: 1) an armored vehicle for regular units, and 2) a light-weight system for air mobile and airborne units. The present direction of development of an armored replacement for the M113A1 (Modified) continues to rely on the chassis of this vehicle. Three companies, Emerson Electric, Chrysler, and Northrop have built prototype vehicles, and these vehicles have been undergoing competitive evaluations at Hunter Ligget Military Reservation, Fort Ord, California. We understand that the Army has requested research and development and procurement funds for this vehicle system in 1977 for a total projected cost of $146 million. In all three versions, the TOW is mounted on an elevating pedestal which is fastened to the cupola of the M113. Since this pedestal is movable, it can be raised, lowered, and turned to permit engagement of a target while the basic vehicle is behind complete cover. Although it is not known what the final configuration of this vehicle will be, it appears that manufacture will start in 1977-78 and that the vehicle will be utilized to replace the M113A1 (Modified) in mechanized combat units.

The search for an airmobile vehicle to transport the TOW has also seen considerable experimentation in the past few years. The initial form of vehicle was the M151A2 ¼-ton 'Jeep'. The mounting on this vehicle is very similar to that used to mount the 106mm recoilless rifle; this vehicle system gives reasonable mobility, but the chassis of the M151 is overloaded, and the vehicle system suffers from a lack of space to transport the crew, their belongings, and a number of extra rounds of missile ammunition. A parallel development uses the M274A2 'Mechanical Mule' (Platform Utility Truck) to carry the TOW system. This vehicle offers greater load carrying capacity than the M151, but it suffers from a lack of speed. Field experimentation has been carried out in the U.S. Army's two airmobile units; the 101st Airmobile Division and the 82nd Airborne Division. Appartently neither of these two vehicles represents an ideal solution, and we understand that the U.S. Army has procured a number of light, air-transportable vehicles from Germany. Called the 'Kraka', the German vehicle resembles the M274, but is larger, has more load carrying capability, and a greater turn of speed. It remains to be seen if this vehicle will prove satisfactory. We will publish additional information on TOW mounting vehicles as they become available.

Since this article has started out by talking about the M113A1, we should devote a little space to other M113 projects. In Germany, troops of the 3rd Infantry Division have been used to test a new mine-dispensing system which utilizes the M113. The heart of the system is a standard 4-ton trailer which mounts an XM128 mine dispenser, which is part of the new Ground Emplaced Mine Scattering System. The M113 is used to tow the trailer and provide cover for the crew during dispensing operations. An idea of the system operation can be gleaned from the nickname given to the XM128: The Frisbee Flinger...

The manufacturer of the M113, the Food Machinery Corporation of San Jose, California, continues to supply M113's to a large number of nations. We understand that the Royal Netherlands Army is taking delivery of a large number of M113's in June and July of this year. The total quantity ordered was 889 vehicles, and includes spares and tools. Of these vehicles, 35 have been modified by the addition of a 25mm Swiss Oerlikon KBA automatic cannon. This weapon is mounted on a raised gun pedestal which can be swiveled, elevated, or depressed to engage the enemy while the M113 is under cover. We understand that these vehicles will be used to replace the French AMX-VC1 armored personnel carrier in Dutch Armored Infantry Companies.

Models in Review (Continued from Page 46)

realistic. If I had to find fault with any area of this particular figure, it is with the join of the arms to the torso, and also the generally clubby look of the figure's booted feet. I solved the latter problem by file work and also by building up the legs of the trousers with Green Stuff, which was carved and sanded to shape after dry. The figure was accompanied by a black and white coloring guide which provided little information; however, there are more than enough references on the market to assist in accurate painting. Part of the coloring guide depicts a folded map, which may be cut out, folded, and then positioned in the figure's left hand. This is a simple solution to creating a realistic-looking map.

This is a generally accurate and useful miniature figure, which will fit well into a variety of different modeling scenes. While attachment of the arms will take some patience and extra work, the extra effort will repay the modeler with an accurate depiction of a German assault gun officer.

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MOVING ??
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The Canadian Army Motor Battalion, 1939-45 (Continued from Page 17)

motorcycles, one Jeep, two White M3A1 Scout Cars (carrying Company officers), and two 15-cwt trucks, one of which was a GS version and the second a Stores vehicle. These carried food and stores for the Company and provided transportation for the enlisted personnel. Each of the Company's three Anti-tank Platoons was divided into a Headquarters with a Norton motorcycle, two 15-cwt GS trucks, and a Universal Carrier with a radio; and two Gun Detachments. These Detachments each had a Norton motorcycle, two Universal Carriers and one six-pounder anti-tank gun, which was towed by one of the carriers. The Company's Medium Machine Gun Platoon consisted of a Headquarters, with a Norton motorcycle and two Universal Carriers, and two Sections of three Universal Carriers each. Two of the section's carriers each carried two Vickers medium machine guns.

Strategically, the Motor Battalion was the infantry unit assigned to Armoured Divisions. The Battalion carried out the usual infantry missions, consisting of taking and holding ground on foot, alongside of the tanks of the divisional Armoured Regiments. In a defensive situation, the riflemen of the Battalion dug-in and defended terrain, supported by the tanks and anti-tank guns of other divisional elements. The Battalion did not assault positions while riding in vehicles, as did typical 'armored' infantry of the German *Wehrmacht*; instead, the lightly armored vehicles were transport to move the infantry to the point where they could function as ground infantry. The Battalion did contain sufficient lightly armored vehicles to support and supply units over fire-swept ground, and to conduct highly-mobile reconnaissance-in-force and patrol missions. Since there was only a single Motor Battalion assigned to the Armoured Division which was provided with one Armoured Reconnaissance and three Armoured Regiments, the actual mix of infantry to tanks was on the weak side and was really too low for an effecient balance of forces.

The *Westminster Regiment* was assigned to the *5th Canadian Armoured Division*, and the *Lake Superior Regiment* was a part fo the *4th Canadian Armoured Division*. Both of these Battalions saw action during the war in Italy and in Northwest Europe.

This article will be continued in future issues of AFV-G2, in order to present organization charts showing all of the separate units which made-up the Canadian Army Motor Battalion. As is usual with this type of article, reader comments, corrections and suggestions are welcomed....

Contest Judging: some mixed responses......(Continued from Page 19)

subjective measurement.

In Vol. 5 No. 9 Muzzle Blast, the allusion to POLITICS was made. We all have seen cases where this does in fact occur. Occasionally we are also the victims of pride in our own creations and associations .... who likes to see their own model or a home grown master take second place to an outsider? Never the less, political judgements are made. In a contest where several clubs are represented, the modeling caliber of one will occasionally by quite superior to the others: after all, we rise to the caliber of our immediate competition and association. In such a contest, a judge is forced to consider public opinion, to temper his judgements by a political need to spread awards. Bluntly, if he were to judge by merit, he would be accused of partiality toward the club which generally displays a more skillfully produced set of models. Here is one way that a lesser model can beat out a better one.

Last year I had the priviledge of co-judging the armor/ordnance category at a major convention. My two fellow judges were competent, one being an international caliber IPMS competitor. We all had seen poor judgements made in the past and were determined to be as impartial as possible. Exhibits were displayed with no modeler's identity visible. No grouping by type or nationality were found, and items from all display categories from free standing individual pieces to dioramas were judged together. In general, most models were modifications of standard kits .... where the changes enhanced the accuracy of the piece, we scored it a plus. No means to determine precision were initially made, since micrometer and caliber measurements and requisite data checks would have been too time consuming (we took three hours to judge some 60 entries), so several Mark-1 eyeballs and our collective knowledge and experience determined the results of an initial screening. Subjective opinion was kept at a minimum with no preference given to any model type, period, national designation or display mode.

Approximately 50% of our judgement was based on accuracy of the piece, the balance was a cold, hard look at the skills the modeler demonstrated. Absence of glue smears, good unit assembly, micro-detail and improvisation, painting and weathering, etc. scored as pluses. At the end of the initial screening, a half dozen entries, about 10% of those displayed, merited further scrutiny. Each judge then individually rated these models after very close examination. Final selection was made by comparing our separate results. The only political consideration given was that one person could not win more than one award. In general, our judgement was met with approval, albeit with an occasional sour-grapes comment and the requisite 'winner's surprise'. We believe we made an adequate judgement.

Mark Diehl
Assistant Editor
AFV-G2

The German Heavy Armored Car Company (Continued from Page 30)

1½-ton trucks, one of which also served to transport some of the company's extra equipment. When not required for mess duties, ammunition or fuel re-supply, all of the section's vehicles were used for transport of personnel. The usual method of operation for the Administration and Supply Section was to establish a fixed location from which all company support eminated. Once this location had been established, personnel and necessary equipment were off-loaded, and the section's trucks were then freed for ammunition and fuel re-supply missions in support of the company's combat elements.

The last remaining element of the Heavy Armored Car Company was the Company Trains, which consisted of one 1½-ton truck. This vehicle was used to transport the Trains personnel and also carried the baggage of company personnel. Normally, this one-vehicle section travelled with the Battalion Headquarters, joining the Armored Car Company whenever it became established in one location for any extended period of time. Following the reorganization of the Reconnaissance Battalion under the *'frei Gliederung'* concept, this section was deleted and the personnel became an organic part of the battalion's *Versorgungs-Kompanie* (Supply Company); however, they continued to support the company as outlined above.

Some comments are necessary in regard to the German useage of heavy, eight-wheeled armored cars. These vehicles were popular with the Germans, for they provided reasonable mobility, good firepower for reconnaissance tasks, and excellent communications. Their mobility was exceeded by lighter armored cars and tracked vehicles; however, the lighter cars lacked armor protection and space to mount heavier armament, and the tracked vehicles were often too slow and less economical to operate. In many ways, it is surprising that the concept of eight-wheeled armored cars was ignored in the post war years in all but two nations. France continued to experiment with this form of vehicles for reconnaissance tasks, and the Soviet Union has continued to use these heavy vehicles mainly as a form of infantry transport.

The German *Panzerspäh-Kompanie Typ D* was a flexible and well-organized reconnaissance element of the *Panzer-Divisionen*. In concept of operation, the company was extremely flexible, being able to provide efforts ranging from simple route reconnaissance by a two-vehicle Armored Car Section (sometimes backed by one of the heavier *Sd.Kfz.234/3* cars) to a full-company reconnaissance of an area of terrain (to find the enemy, for example). Organic heavy support was available, either in the form of single vehicles or as an artillery firing battery. This provided the company with high explosive support, smoke screening support, and a limited amount of anti-tank support (through the use of hollow or shaped charge ammunition). All accounts indicate that this form of reconnaissance unit performed well during the latter stages of the war, even though the need for offensive reconnaissance was less.

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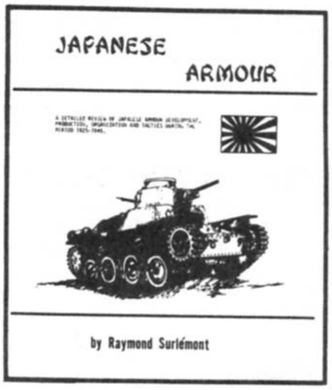
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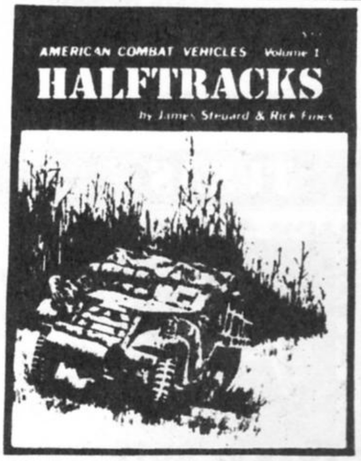
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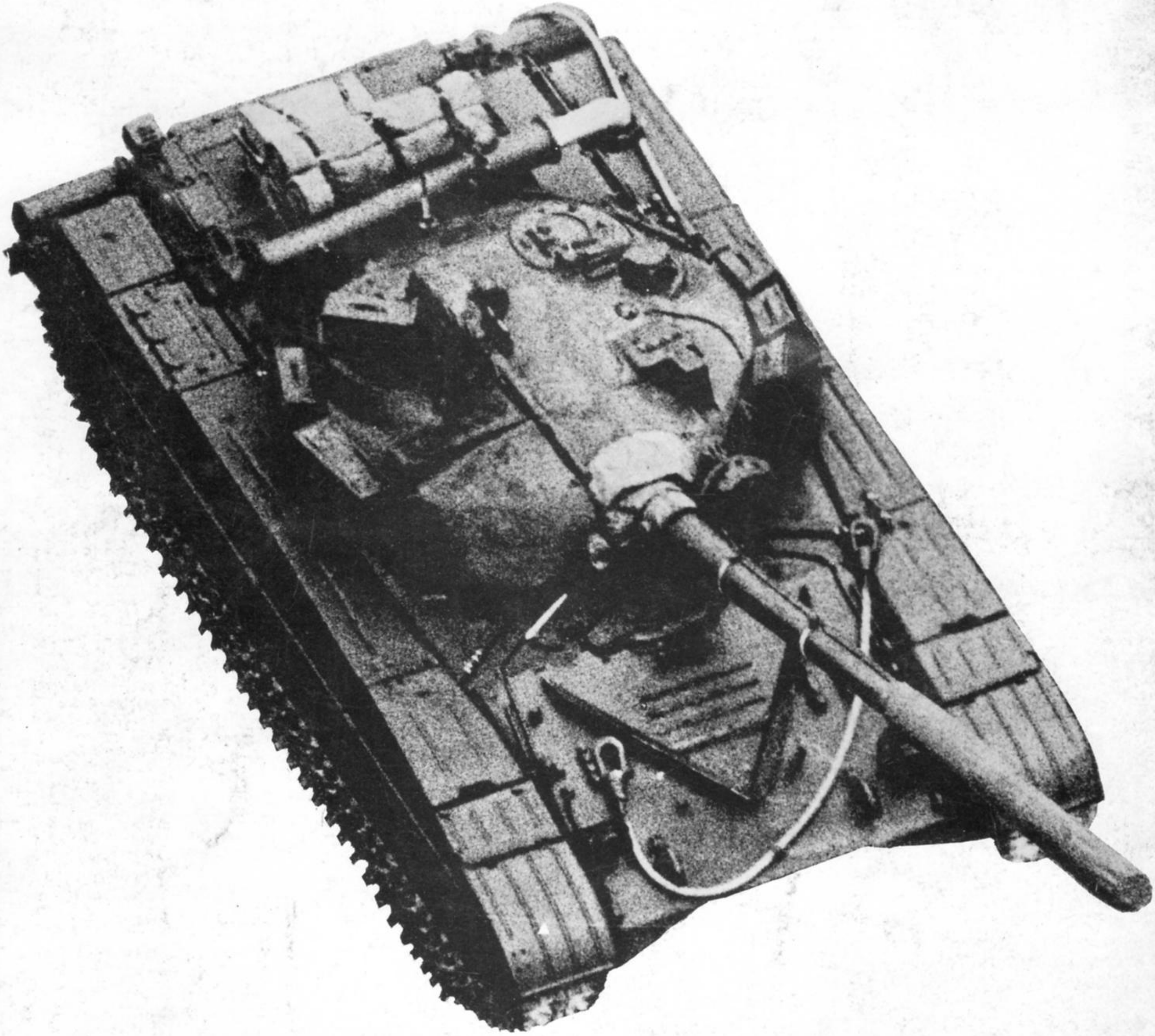

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